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# The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request

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## A National Emergency Project

By M. F. TRICE, *State Board of Health*

At Glenville in Jackson County and at Aquone in Macon County there are being constructed large dams that will impound the waters of the Tuckasegee and Nantahala rivers, respectively. At each place water will be carried down grade some six or seven miles through penstock and tunnel to a hydroelectric power station. The electric energy produced will be transported by high-tension line to Alcoa, Tennessee, to be used in the production of aluminum, a strategic war metal. The State Board of Health has been on the job at both projects through the Division of Industrial Hygiene. More than 1,000 men have been examined to determine their suitability for work that may subject them to siliceous dust hazards. In the tunnels atmospheric dust samples have been taken for dust counts and carbon monoxide content. The above view looks one mile up a tunnel from a point 200 feet from the portal. When completed, it will be approximately  $3\frac{1}{2}$  miles long. The big pipe on the left is the ventilation duct.

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The State Board of Health publishes monthly **THE HEALTH BULLETIN**, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	German Measles	Scarlet Fever
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Flies	Disposal Plants	Water Supplies
Fly Placards	Sanitary Privies	Whooping Cough

### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. O.

Prenatal Care	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10
The Expectant Mother	11, and 12 months; 1 year to 19 months
Breast Feeding	19 months to 2 years.
Infant Care. The Prevention of	Diet List: 9 to 12 months; 12 to 15
Infantile Diarrhea	months; 15 to 24 months; 2 to 3
Table of Heights and Weights	years; 3 to 6 years.
	Instructions for North Carolina Midwives.

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## Notes and Comment

By THE EDITOR

### Prospectus For 1941

**I**N any hopes and plans for this New Year, world conditions must of necessity be considered. There is a growing tendency, however, in this country, which is a healthy indication, to get back down to the everyday needs of our own communities, including the man next door and ourselves.

A long time ago, the evangelist, Billy Sunday, had an expression, possibly voiced in song, which it is well to remember in these perilous times. As we recall it, the expression or the song was "Brighten the Corner Where You Are." The philosophy is the same as the expression by Benjamin Franklin and of course reaches back into antiquity. It is the doctrine of doing well the things needed to be done nearest to oneself. So, with due regard and plenty of worry about the course of events and the various terrifying wars going on on both sides of the earth at this time, and with civilization itself hanging in the balance, we set forth cheerfully although with some misgivings to outline some of our hopes for this year.

In the first place, we hope to see a continuation in the slight decline in the maternal and infant death rate achieved during the past two years. We hope to see an increasing number of county health departments organized in the few remaining counties yet living under primitive conditions. We hope to see the beginning of material results in the

Statewide effort to control venereal diseases and before the year is out full justification for the time and money spent in that endeavor. We hope to see increasing and more effective coöperation between the State Board of Health and the State Department of Education in their important work for school children. We hope to see at least 99 percent of all the births and deaths properly recorded. We look with confidence to the results in the field of nutrition and in oral hygiene work. There should be a material decline in the number of children coming into the public schools this year having teeth defects and there should be fewer school children and others showing evidences of malnutrition, or lack of maintenance of proper nutritional standards. Food in wider varieties should be more plentiful for the underprivileged. We hope that the Board's Laboratory may be able to provide free diphtheria toxoid to all physicians and health officers in the State. Typhoid fever and other controllable preventable diseases should be reaching for new low levels, which we hope will lead to eventual extinction. We confidently expect the reduction in the incidence of tuberculosis to be maintained according to the trends for the last twenty-five years. Widespread work by hundreds of individuals in that field and the expenditure of large funds will no doubt be paying dividends in fewer cases and fewer deaths of that disease.

We hope to see extension of plans which will provide local milk supplies and local water supplies for the smaller towns and villages which will be safe from a public health standpoint and which will promote local industries and community pride for the numbers of small towns now needing such facilities either as primary industries or expansion of present meager facilities. It should not be necessary to express the hope that continued success in the field of sanitation and malaria control should be successful all over the State.

Plans inaugurated late in 1940 should come to full fruition this year which will eventually prove to be highly important to all the people of the State. The first of these plans, in coöperation with the United States Children's Bureau, the University of North Carolina and the Duke Medical School and Hospital with the State Board of Health, has made provision for postgraduate teaching to the students of the public health school at Chapel Hill and to selected physicians to receive postgraduate instruction at Duke Hospital and at the University School of Public Health. This work should be firmly established and be of great aid to the physicians of the State and the health officers in further reducing the hazards of maternity and infancy.

Another important move is the establishment of a school for the postgraduate training of public health nurses at the University of North Carolina. The head of this training school has already been selected and it is expected that the school will get underway with the September opening and therefore eliminate the necessity of sending out of the State all nurses necessary to be trained for the public health work.

All of the foregoing plans and prospects individually affect every family in the State and all of them should receive in one way or another substantial benefits from all these efforts.

## Doctors Makepeace and Lawson

Late in 1940, the Division of Preventive

Medicine of the State Board of Health, through its department of maternal and child health service, was able to obtain funds from the United States Children's Bureau sufficient to establish a postgraduate course for selected physicians at Duke Hospital and for additional teaching facilities in the University of North Carolina School of Public Health in the field of obstetrics and pediatrics, all of which was briefly mentioned in the foregoing paragraph. To carry out these important plans, two young men of fine training and ability have been secured to begin these services.

Dr. A. Watts Makepeace, whose father was a native of Lee County and who has been associated with the University of Pennsylvania Medical School for sometime, has accepted the position of conducting the courses and doing the teaching in obstetrics. Dr. Makepeace is a graduate of Harvard Medical School and has had several years' experience and postgraduate work in addition to his teaching in the obstetrics department in the University of Pennsylvania Medical School.

Dr. Robert B. Lawson, who was last summer selected by the trustees and faculty of Wake Forest Medical School for the position of associate professor of pediatrics in the recently established four-year Medical School of Wake Forest College at Winston-Salem, was secured for the current fiscal year to carry on the companion work in pediatrics similar to Dr. Makepeace's work in obstetrics. Dr. Lawson has accepted this assignment and has been at work since September. Naturally, his services will terminate at the end of the current fiscal year in time to assume his permanent duties with the Wake Forest Medical School. Dr. Lawson is giving invaluable service to our work and will no doubt be able to establish this work

on a permanent basis before he terminates his services with our group. We were much pleased to make this arrangement because in his future work with the Bowman Gray Medical School he will understand better our own difficulties in this field and will be in a better position to coöperate with us in future work. Dr. Lawson is also a graduate of Harvard Medical School and is fully qualified as a pediatrician. We feel fortunate in being able to inaugurate this work under such favorable auspices through the aid of these two excellent physicians and teachers.

\* \* \* \*

### North Carolina Doctors Honored at Home and Abroad

The editor of  
THE HEALTH  
BULLETIN,  
having been

for more than thirty-five years a member of the medical profession naturally takes a keen interest in everything that goes on in the medical profession of North Carolina. Being proud of his profession, although an humble member in the private ranks, he is always gratified to see recognition where it is due.

Recently four physicians who have happened to be among his close friends for a quarter of a century or more were honored by their colleagues in their home communities in a way which should be extremely gratifying to the recipients of such honors.

First, the local medical society in Caswell County composed of the practicing physicians in Caswell and Alamance counties gave a dinner honoring Dr. S. A. Malloy. The chief speaker of the occasion was Dr. Julian M. Robinson of Danville, Virginia, which is only fifteen miles from Yanceyville, the home of Dr. Malloy. Dr. Robinson stated that he had known Dr. Malloy for the past thirty-six years, both as a professional associate and as a friend. Dr. Robinson properly pointed out that Dr. Malloy's patients are his friends and their devo-

tion through all this third of a century has been unwavering. Dr. Malloy has practiced medicine for forty-two years and has rendered obstetric care to approximately 3,500 women. He has driven over the red mud and dust of Caswell County back country roads all these years and has given unstintingly of his time and talents to all the people of his county, rich and poor.

Had the editor known about this contemplated occasion to honor Dr. Malloy, they would certainly have had at least one uninvited guest, because he has known and loved Dr. Malloy ever since he has been a member of the staff of the State Board of Health.

Second, the Mecklenburg County Medical Society at Charlotte in one of its rare occasions held a dinner in honor of Dr. Charles S. McLaughlin and presented him with an engraved gold watch. It seems that this is the custom of the Mecklenburg physicians when one of their number reaches the age of seventy and has practiced for a minimum length of time. Dr. McLaughlin has practiced some forty years and for several years he was the Mecklenburg part-time physician and responsible for about all of the health work done in Mecklenburg County and City of Charlotte. During a part of the time he was county physician the late Dr. Reid was city physician of Charlotte. There was no organized city or county whole-time health department as we know it today, but Dr. McLaughlin rendered his city and county invaluable service. In his years as county physician, his friendly coöperation with the editor in his work in that section will always be remembered. We hope that he will live and practice a long time and take the pulse of many a patient with his new watch.

Third, the Raleigh Academy of Medicine in November gave a memorial dinner at the Sir Walter Hotel in Raleigh in honor of Dr. John B. Wright, for

nearly thirty years an eye, ear, nose and throat specialist in Raleigh. The Academy presented Dr. Wright with a silver tray properly engraved. The chief speaker of the occasion was Governor Hoey who spoke many cheering and encouraging words to the large group of physicians assembled on this occasion. As in the cases of Dr. Malloy and Dr. McLaughlin, the editor is privileged to acknowledge Dr. Wright as one of his long-time friends. Some twenty years ago when the editor of *THE HEALTH BULLETIN* was undertaking to introduce the few specialists in eye, ear, nose and throat work engaged in practice in the State at that time to the poorer and more underprivileged people of their communities and as a demonstration, established what is known as the tonsil clinics purely for educational purposes and to prove that a child needing a tonsil operation could have it done in his own vicinity by a competent specialist and that the operation would be a great deal of benefit to the child, Dr. Wright rendered courageous service in the work and helped to make it a profound success. We hope, too, that Dr. Wright may be able to eat many a meal served on that beautiful silver tray given to him by the doctors on this occasion.

Fourth, about the time of his retirement from active practice, the Wake County Medical Society at a dinner meeting at the Carolina Hotel in Raleigh presented Dr. Hubert A. Royster a beautiful silver platter as a testimonial of the esteem and affection they have for him. For more than forty years following his graduation from the University of Pennsylvania, Dr. Royster was one of the most distinguished surgeons in the South. He has held many positions of honor in his profession among them the presidency of the Southern Surgical Association. His

friendly encouragement has always meant much to the editor of the *BULLETIN*.

In the achievement of honors outside of North Carolina, the profession in this State has gone far during the past year. At this time Dr. O. L. Miller of Charlotte is President-elect of the American Orthopedic Association, one of the leading surgical organizations in the country. Dr. Z. M. Caviness of Raleigh has for the past year served as President of the American Association of Proctologists. Another physician many times honored by his fellows before, Dr. P. P. McCain, Superintendent of the State Sanatorium, is president of the National Tuberculosis Association, a place of distinguished honor which, of course, Dr. McCain richly deserves.

The most recent high honors coming to any member of the State's profession was the election of Dr. Paul H. Ringer of Asheville as President of the Southern Medical Association which occurred in Louisville, Kentucky, the second week in November. Dr. Ringer is one of the truly great physicians of North Carolina and will wear his honors worthily. The Southern Association could have procured no better man in its membership for this honor.

In this connection, we also take pleasure in calling attention to the fact that two of the members of the State dental profession which in every way is so closely allied with the physicians of the State have also achieved national honors. One is Dr. Ernest A. Branch of the State Board of Health, who is now President of the Section of Public Health Dentists, an affiliated organization of the American Public Health Association. The other is Dr. Wilbert Jackson of Clinton who was recently elected to membership on the National Examining Board. Both of these dentists are

well-known members of their profession and will discharge their duties with credit to themselves and their profession.

There may be other similar honors which for the moment we may have overlooked. If so, we should be glad to include such references later on.

**Mental Hygiene** For several years Dr. James K. Hall of Richmond, Virginia, an eminent psychiatrist and for the last few years an exile from the medical profession in North Carolina but a most successful exile in his field, has been urging upon the authorities of the University of North Carolina Medical School to establish a department of psychiatry in that institution. No doubt this will eventually be done and when the chair is established it should be entitled the James K. Hall Chair of Mental Hygiene. Dr. Hall has kept up his agitation in the face of much discouragement but he should be pleased at this time with the widespread interest developing all over the country in the need for more attention to be paid to mental health than ever before.

In a most interesting and leading article in the November issue of the *American Journal of Public Health* under the title of "Human Relations as a Public Health Problem," Dr. Halbert L. Dunn, Chief of the Division of Vital Statistics in the United States Census department at Washington, has a most comprehensive article on the whole subject, one of the best that has been published in the country up to this time in such a publication as the *American Journal*. Dr. Dunn, who is an authority on statistics for the whole country, states in his article that in the past year there were 500,000 patients in mental institutions in the United States. Dr. Dunn states further that the totally disabled mental cases, including mentally diseased, idiots and imbeciles, feeble-minded and the alcoholic and

drug addicts number two million. The family members associated with these cases are nearly five million or about five percent of our total population, concerned deeply and personally with this problem.

In a personal letter to the writer, Dr. James Watson, Director of the Division of Mental Hygiene in the North Carolina State Board of Charities and Public Welfare, makes this statement: "Financial aid from the Federal Government and from a number of other sources is now available for the study of five diseases selected as targets in the fight for the Nation's health, namely, cancer, syphilis, infantile paralysis, malaria and yellow fever, but such a thing as dementia præcox, for instance, which destroys more people and careers than all those diseases put together, is not included or even thought of in the average health program." To many Dr. Watson's statement will seem to be somewhat exaggerated but when considered in the light of Dr. Dunn's statement quoted above, it is obvious that Dr. Watson is not so far wrong after all.

The editor of THE HEALTH BULLETIN has been agitating for nearly a quarter of a century for more work along this line in the public health program. In 1926, he practically went on his knees to Dr. Laughinghouse and Governor McLean, imploring them to establish in the State Department of Health a division of mental hygiene and to place it on a parity with other staff positions. It is more necessary today than ever before that adequate attention be paid to the problems of mental hygiene and there is no better place to deal with it than in a public health program.

**Filling Station Sanitation** There has been much agitation, and properly so, during the last few years for adequate rest stations along the highways for the convenience and comfort and safety of the

traveling public. The establishment of adequate sanitary facilities in all these roadside stations is a responsibility of the owners and operators but the safe and clean and adequate maintenance is a responsibility equally shared by the traveling public. When the operator and owner of the station establishes the facilities, he has then done his part, provided he makes a reasonable effort to keep the station clean. Ninety percent of this effort, however, is the responsibility of the traveling public.

A very wise and experienced woman friend of the editor writes us along this line and we will let her complete this editorial. She writes:

"For sometime I have wanted to mention a subject to you that I believe you could make a good and much-needed editorial on. That is public toilets in filling stations and elsewhere. At various times filling stations that have State inspections and where the operators make an honest effort to keep them clean, I have seen some things caused by careless users that I sometimes wonder how these filling-station operators have the courage to keep on trying at all. Only yesterday, an operator here in this city of forty thousand people, whom I know well asked me to please go look at his toilet in the ladies rest room. Two cars of travelers with three women and three young girls had just used the "ladies" rest room. I could scarcely believe my own eyes when I went in and took a look. The floor was covered with excreta. In fact, certainly the young girls had not used the toilet at all. In the small adjoining dressing room there was debris of all kinds, tables covered with chewing gum, powder, particles of food, paper and every kind of trash scattered all over the place. I thought this must have been a most extreme and unusual instance, but the operator told me that it happened all too often. I have seen evi-

dences of abuse but as I seldom go in one of these places I had no idea of the problem the operators have to face in keeping a semblance of cleanliness about their places when such people as the foregoing stop for a visit. It seems to be a terrible lack of appreciation on the part of the traveling public to the efforts made for their comfort by these operators. It seems to me that the human of the species is much more dirty and lousy in many cases than any other creature in the animal kingdom. I could say more but I hope I have said enough."

\* \* \* \*

### IN MEMORIAM

On the morning of Monday, November 11, 1940, death struck in two of the State Board of Health families. Mrs. Ruth Hanes Craig, wife of Dr. S. D. Craig, President of the Board, died at their home in Winston-Salem, following an illness of several weeks. Mrs. Craig was a woman of rare ability, a supporter of all good causes in her city and a loyal friend of the State Board of Health.

Miss Cleone Hobbs, a trained nurse on the nursing staff of the State Board of Health for eighteen years until her retirement two years ago on account of ill health, died at the home of her sister in Charlotte. Miss Hobbs was an organizer of the State Nurses' Association and one of the first to serve as president of that organization. She was literally a crusader for better health conditions in our State. As a school health nurse she was especially concerned about the nutritional and sanitary problems in the schools of the poor and neglected communities, especially among the Negroes. She left a proud record of work well done.

The public health work of the entire State will miss the support of these two good women.

# And Now I Am Forty

## LOOKING BACKWARD AND FORWARD AT LIFE'S HALF-WAY HOUSE

By SUDIE PYATT MILLER, Lumberton

[AUTHOR'S NOTE: Ten years ago in October, 1930, an article, "Growing Up to Thirty," written by myself was printed in THE HEALTH BULLETIN. A decade has passed, and I am writing another story . . . a follow-up . . . which Dr. Cooper has kindly invited me to submit for publication in THE HEALTH BULLETIN as the first one was.]

**I**N the decade since that article was written many profound changes have occurred in the world, changes which I believe will affect the lives of all of us in this generation and for generations to come.

We were already experiencing the worst depression of our times in 1930, a depression that was to grow worse in the early thirties. Hoover was in the White House. Women's skirts were lengthening after a period of short ones. Talking pictures were new. There were no streamlined cars. No Social Security. Hitler was only a name seldom heard outside of Germany. The Bank Holiday was three years in the future. There was no AAA, no farm control, no FHA, FSA, WPA, and numerous other government agencies the past ten years have given us.

Most of us, if we were fortunate enough to still have a job, felt that things would soon adjust themselves—that we could sing, sloganize, or talk back the old safe, secure, if sometimes crazy, lopsided, unfair world of the twenties.

Today, if we think at all of our own personal problems and those of our country and the world at large, I believe we know that the world of the Golden Twenties will never come back.

I, for one, do not want that world back. However stumblingly we are going forward today here in our own United States and throughout a world

that is reshaping itself, apparently according to no known pattern of previous worlds, I believe we are moving steadily and inevitably toward a better world—a world of universal peace and brotherhood, the like of which Christ preached, but the world has never known.

In that world I do not believe there will be any place for Hitler, and his world bandits, and I don't think there will be a Hitler there. I believe it will be God's world—and Hitler will be neither wanted, nor needed.

The revolutionary thirties gave me first, both by the calendar and in importance, my daughter, now soon to celebrate her tenth birthday. Through the ten years I have had a home. True it has been in almost as many states as there have been years, but wherever we founded it, there it was home. A fair portion of health for me and mine has been our share for the decade. Again a job has been my lot whenever I sought earnestly for it and worked diligently to keep it. Jobs have not come as easily, or paid as much in the last ten years as in the ten that immediately preceded the thirties. During this decade I have held one of the best positions it has been my privilege to fill.

I saw during the thirties the best opportunity I ever had slip into the past among opportunities forever gone—that one, at least!

Sometimes opportunities, real worthwhile ones, do come twice, or even thrice in a lifetime. In the decade that lies ahead I hope another such opportunity will come to me, and when it comes I hope I will not have to repeat history and forego it.

The forties shut the door to opportunity for some. True, they do close doors to certain types of positions—the positions that call for youth.

But not all of the positions in our modern world are cut to the pattern of youth. There are places for the middle-aged, and even older men and women.

I think that jobs for the older man and woman should be approached from the same angle as one would purchase clothes for that age. The sensible, attractive and stylish middle-aged woman—the well-dressed man in his middle years, do not buy the same styles or cuts of clothes an earlier age calls for.

Statistics show that in all lines that call for sales ability the forties to fifties lead in selling ability for both men and women. The man and woman who can sell—anything from razor blades to million-dollar bond and real estate deals need never fear where tomorrow's pay check is coming from. They can always write their own pay checks. The middle years excel in the ability to sell.

If you have reached the middle years, have no job, no business of your own, and can sell anything, investigate its possibilities. Some experience, business ability and a nest egg are a good start for a business of one's own in these years. Even if small this business may bring one more satisfaction than plugging along in a business another man has built up.

At forty I have found work in selling—everything, vanilla extract, calendars, printing, newspaper advertising and subscriptions. As I go along into the forties and things turn my way I hope I can find what I have always wanted—a community newspaper published in my own modest plant.

My daughter—my first heart interest—is now ten. When she was very small I wrote several articles centering around her. Recently I have written little, mostly because I've been too busy selling, I suppose. I don't make any claims to being a model mother or having a model daughter. She is a normal, healthy, happy youngster. She makes good grades in school. Has done well with piano lessons, likes to read, attend the movies, thoroughly enjoys playing with other children, and takes part in the church and Sunday schools in the communities in which we live, and in other community activities.

I do not believe she is growing up with any direful complexes or inhibitions. She is now in the fifth grade in public school. I hope she follows on through her public school years with the hearty, zestful attitude she has taken so far. And then if the forties bring me what I hope, she will go to college. She is the type of girl who will be able to take, and know what to do with a college education.

If the promises of the forties do not materialize I shall give her the best opportunities her own talents, combined with my ability to negotiate things for her will allow.

One thing I shall not insist upon her doing something she has no liking for. Loving ones work is half of life. I shall leave her free to choose her own vocation. But if she wants my counsel, the value of my experience, I shall give it freely without preaching—I hope!

As to marriage for her. It is early to speak of that, but the years will go swiftly. It seems only yesterday that she was a roundfaced, curlyhaired, smiling baby. A decade from today it will perhaps seem only a day back to her pig-tailed, fifth-grade ten.

I want to tell her as her needs will call forth the facts of life she has not already absorbed. I am not going to turn her loose on the world for whatever the reckless 'teens might find to do. At the same time I want her to have friends, the right friends, both boys and girls, through these years. I want her to be pure in both mind and body, but not prudish.

If and when she finds a man she feels she loves well enough to marry I shall give my consent, my blessings, and ask God's upon them if I think he is worthy. I shall hope she will select a man near her own age, from her own section of the country, with upbringing, likes and dislikes similar to hers—a man who has not dissipated his youth, who is forthright, intelligent, honest and clean in both mind and body.

And when she is married—if she does—I shall not make my home with her. She will probably leave me alone, but I will have my books, my writing. Perhaps then I will have time to write the books I have long planned to write but never have had the time for. I will have a dog and a cat and some friends. I will have her in priceless moments of reunion, in memory—my grown-up daughter, my roundfaced baby, my pig-tailed fifth grader—and I will not be lonely.

When "Growing Up to Thirty" was written ten years ago I had only recently recovered from a genuinely serious illness. An illness that but for modern medical science might have written

finis to my story long before either of these stories were written. Naturally a large portion of that article was devoted to my personal health and my adjustment to the world of realities after recovery from my illness.

The past years have been spent in a different environment with a different outlook, hence health takes a smaller place in the story today. It is not that I do not consider health important, one of the most important things in the world, but with better health the past ten years, health has assumed for me more of the normal place that it holds in the life of the average healthy man and woman.

Lessons serious illness taught me, physical, mental and spiritual, have not been forgotten. They never will be. They were graven too deep with months and even years of fighting to regain that most priceless gift—good health—mental and physical.

Checking over the 1930 story I find I gave a few personal health rules. With but one chief exception, the observing of an afternoon rest hour, which my better health and the press of work long ago made me abandon, except when ill, I observe these same health rules still. They are simple rules of health and sanitation that should be taught every child in the home and school, taught in such a way that they will be observed throughout an entire life both in health and in sickness.

A clean body, as clean as soap and water, and the necessary amount of bathing and abstinence from dissipation will make the body. A clean, healthy mind that is free from envy, malice, hatred and other forms of wrong thinking, is as important as a clean body.

Some of the means I listed in the article ten years ago for a clean, healthy body are basic health rules that should not be ignored by either grown-ups or children. Bodily bathing, plenty of clean drinking water. Clean teeth and mouth. Three good meals at regular hours, with milk, fresh fruits and vegetables. Plenty of sleep is important for young and old, sick or well. A checking up once a year by a good physician. Teeth kept in good condition by a dentist, and bad ones removed as soon as they show signs of infection of the body.

Do not entertain regrets for the past, or fears for the future. Enjoy what you have. Do not envy people who apparently have more of life's good things than you have. That material things do not bring happiness was one of Christ's fundamental teachings. Nearly two thousand years later it is still true for those who see life clearly in all of its aspects.

Smile, that may sound hackneyed. It is not. Smiles will never grow old, never grow out of style, and it is marvelous how much easier a smile makes this matter of living.

I have always felt that I was especially privileged to have been born an American. Events of recent years have made me even more proud of that privilege—to be able to live in free America as a native-born daughter and bring up my daughter in the same way—a free American, is something I feel thankful for every day.

I cannot train for defense, or help construct the buildings, ships, arms, munitions and other supplies necessary for our defense. I can stay at home and do my share to help keep the wheels of our everyday life steadily revolving.

I shall freely give in whatever manner I can aid in money, gifts, time or labor as lies within my ability to defend my country—the American way of life!

And now I am forty, looking backward brings no regrets—I cannot forget. Looking forward I shall take the years in my stride. Each year's problems solved as they arise with my God-endowed capabilities — free, untrammelled of body, mind and soul in free America—for it must remain forever free, a torchlight for all humanity—the American way.

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### National Social Hygiene Day

February 5, 1941, is the date this year for observance of the Fifth National Social Hygiene Day. This activity is sponsored by the American Social Hygiene Association with headquarters in New York City.

The theme this year is "Social Hygiene and the National Defense." The suggested general slogan is "Guard Against Syphilis—America's Health is America's Strength." We would advise any community worker who can to organize and present a program at some time during the day. The program should include brief statements of the danger to the community and the nation in the widespread presence of syphilis and suggest practical means for the control and elimination of the so-called social diseases.

Literature could be obtained from the above named organization at their offices, 1790 Broadway, New York City, or from the Division of Epidemiology of the State Board of Health, Raleigh.

# Medicine As A Career

By RANDOLPH BALL

[EDITOR'S NOTE: We receive many requests from students for literature about the advantages and disadvantages of the profession of medicine as a way of life. The best presentation of the subject we have seen is contained in this article, written from the fresh viewpoint of a fifteen-year-old high school student who has decided to study medicine. The boy is the grandson of Dr. Reynolds, State Health Officer of North Carolina. He has been living for the past several years with his parents in Altadena, California. We advise a careful reading of this article by every high school student in our State who is thinking seriously of embarking on the long, hard, glorious life of a physician.]

## Introduction

THE care of his body was the first concern of primitive man. By hard work and long effort he was able to get food to keep himself alive and shelter to protect himself from weather. But when sickness came he did not know what to do. Out of this helplessness was born the profession of medicine and it has continued to occupy a leading place among all the activities of mankind.

## History of Medicine

*Primitive medicine.* Among the early peoples, sickness was due to the spirits which they thought to be everywhere. Every mysterious event in nature was due to some demon which inhabited the person and caused the trouble. In an effort to satisfy the anger of this evil spirit, many dances, queer ceremonies, rites, and sacrifices were made, hoping to cause the source of the trouble to leave the sick one. As some people were successful in this method of curing, they came to be "medicine men," and had mysterious powers with the supernatural. Thus the priest and the doctors were often the same people, for both required communion with the spirit home.

*The Father of Medicine.* Hippocrates, 460 to 375 B.C., was the founder of Greek medicine. His idea was to describe carefully the symptoms and to study the patient. This seems a simple thing to do but people were slow in taking the idea up. He believed that

disease was a natural event and that a study of its nature was the only way to treat it.

Galen, or Claudius Galenus, was another Greek physician, born 131 A.D. He later went to Rome and became a famous doctor, attending the Emperor Marcus Aurelius. He did considerable writing and was widely known throughout the empire. He made important anatomical and physiological discoveries and learned much as a practiced dissector of lower animals. He died in Cicely around 201 A.D.

## Nature of Work in Medicine

The doctor is one of the professional workers who is familiar to everyone. Many people have no actual contact with engineers and lawyers but men of the medical profession are known by nearly everyone. There are a number of special fields in medicine; however, the general practice is the most important. The family doctor, the one who came the time you fell out of the cherry tree, and the time you ate too much apple pie, is the one who has a general practice. He comes at any time of the day or night, in any conditions of weather, nothing ever stops him. Much of his work is done in his office during regular office hours.

He must be familiar with all phases of medical practice. Often times he will advise the counsel of a specialist for information concerning more specialized work. He often performs minor operations in his office, and must have a great deal of patience when dealing with angry and unreasonable people.

### Special Fields of Medical Work

The principal specialties are:

1. Public Health.
2. Internal Medicine.
3. Surgery.
4. Obstetrics.
5. Pediatrics.
6. Orthopedics.
7. Ophthalmology and Otolaryngology.
8. Psychiatry.
9. Radiology.
10. Diseases of the Chest.
11. Medical Teaching and Research.
12. Industrial Medicine.
13. Dermatology, Syphilology and Urology.
14. Pathology and Bacteriology.

*Public health work.* That is, the prevention of disease rather than the curing is the chief purpose of public health. The worker in this field has to do with spreading information in regard to right habits of living; to stamping out epidemics, and to making available to all the benefits of modern medical knowledge. Often he will work for some organization devoted to fighting some specific disease. There are industrial physicians who are employed by some corporations to care for the physical welfare of the employees. There are the physical training departments. They are usually in colleges and schools and are headed by a doctor who works for the physical welfare of the students. Medical missionaries in other lands do much work of this same general type.

There is the Field of Medical Teaching and Research. Such work is closely associated in medical schools and affiliated hospitals. Expert teachers are always in demand for instructing in the fundamental medical sciences.

There is also the laboratory work. Clinical laboratories in hospitals require graduate physicians as directors. The work involves operating an X-ray

machine, identifying different kinds of germs and bacteria, determining the chemical content of many substances, keeping complete records, being acquainted with the latest equipment, and consulting with doctors and nurses.

Surgery is another line. The surgeon is the doctor who treats disorders by performing operations. Often they will do only one type of surgery, such as abdominal or goiter operations.

Many doctors, especially in cities, have turned to specialization in some branch of medicine.

### Education and Training Required

A minimum of eight years study after high school is necessary, at least three years in college, four years in medical school, and one year as an interne in a hospital. To become a qualified specialist in one field, additional post-graduate work must be taken.

Almost every medical school requires that the applicant for admission must have completed at least three years of undergraduate work in a liberal arts college, and some require that he possess a degree, either A.B. or B.S. This work constitutes the premedical portion of the course, and includes such subjects as chemistry, physics, biology, foreign languages, English composition and literature, all of which are required, and elective courses such as advanced biology and zoology, psychology, philosophy, mathematics, advanced chemistry, and the like.

The average annual fee for seventy-six medical colleges is only \$292. (Thirteen charge from \$350 to \$400; seven from \$400 to \$500; six from \$500 to \$600, and one charges more than \$600.) One who plans to enter the medical profession should plan on an outlay of about \$1,000 per year, or from \$5,000 to \$7,500 for the entire course. The actual time spent in securing a

medical education is now longer than that of any other profession. There are around seventy-seven accredited medical schools throughout the United States.

### Qualifications

Before deciding that he wishes to enter the field of medicine, an individual should take careful inventory of his personal qualifications for, perhaps more than any other profession, this work will demand all of his resources. A sound constitution is imperative, not sheer physical strength but a great reserve endurance to combat the hard work required by the training and the strain of irregular hours which any physician in general practice must accept as his lot.

Self-confidence is an important attribute, founded upon a sense of sound knowledge, accuracy, and intelligence. Without it he is unable to instil confidence into his patients, and confidence is often the best medicine he can administer.

Manipulative skill is necessary for the physician, especially the surgeon. To handle delicate tools in a skillful way is an essential qualification. On a steady hand depends many a life during a serious operation.

Courage to face dangers and forget his personal interests is necessary.

To be a doctor one must have a studious mind and be willing to work. Many years of training and after that continued study to follow the new developments are ahead of every doctor. Since the medical profession is constantly changing the doctor must forever be a student.

### Incomes

Licensed physicians may receive as little as \$125 per month when caring for the health of the persons in camps, or institutions. Many physicians are employed on a salary in public health

work or by clinics either on salary or part-time basis. Most doctors have their own offices, caring for patients on a fee basis, with satisfactory incomes. For the few who make huge incomes, there are very many more who make a bare living. Medicine should be chosen as a result of the urge to heal and to serve rather than as a means of making a fine living, although this is possible through great proficiency and very hard, exacting work.

The average doctor does not start out at a very high income, sometimes he goes in partnership with an older doctor, or he may start out on his own. Of course, if a doctor is good there is a chance for him to make a good income later on.

### Advantages and Disadvantages

Every occupation from the most humble to the most exalted has attractions and pleasant features. While on the other hand they all have disagreeable and unpleasant jobs connected with them.

Medicine has a number of advantages and one of them is the idea of variety of work. The work of many people becomes boring and unattractive because their work never seems to change, while the doctor's work varies a great deal. He never knows what a minute will bring forth. Each morning opens a day of new experiences to him.

There is much satisfaction in being his own boss, even though he does hard work. The doctor who carries on independent practice is able to plan his hours of work himself; even though his plans will often be interrupted. He does not have to continually take orders from his superior. He can take an extra half hour at noon without getting someone's permission to do it. This freedom to arrange his own program of activity gives a satisfaction that every person enjoys. Of course some

doctors do work with corporations where they have regular hours and perform certain specified tasks.

All of us get satisfaction from helping people when they are in need. The man who has an accident will find his neighbors glad to help him and they enjoy being helpful. It is a great satisfaction to a doctor to be able to relieve the distress of people who are ill. This brings a happiness to a conscientious doctor that means a great deal.

Everybody respects the physician for his training and for his importance as a member of the community. He is looked up to as one of the truly important and essential leaders in the life of his city and village.

Like all other professions the medical profession has its disadvantages. Training for medicine is probably the most expensive and takes more preparation than any other occupation. So much laboratory work is involved and this requires a great deal of time and the charges are much higher than for library work in other professions. Because of these things the boy going into medicine must have considerable money or he will not likely be able to get through.

The physician can never plan anything very far in advance and be sure of doing it. It is difficult for him to get away for a vacation in the summer. This irregular feature of his work is rather unpleasant and tiring. Of course, this is not true of the institutional doctor whose work is on a regular schedule and who is seldom called at any other time.

There are so many doctors in most cities that it is impossible for them all to make a good, honest living. Every doctor finds that many of his patients are poor and very slow in paying their bills.

The more successful the doctor is in curing his patient the sooner the job is finished. The honest doctor is continually bringing his patients to the place where they no longer need his services.

A doctor may take a vacation at any time he feels that his practice will allow it. He may retire in his later years if he has been successful in his profession.

He usually lives in a good neighborhood, with people of a fairly good class.

**Conditions of Work:** May be inside or out; sitting or standing; usually confining; sometimes traveling; often working under pressure and nervous tension; contact with public except in laboratory work; responsibility for life or death of patient.

Variety of hours, usually on call day or night, resulting in broken rest. Some occupational hazards due to contracting disease from ailing patients.

Some of the important things to consider under the question of suitability should be set forth as follows: physical health; sincere interest in the profession and the work; undesirable habits which could be termed an enemy to success in medicine as for example, alcoholism; social relations ability, that is, the capacity to understand and get along with the people of every class; mental ability which has already been discussed in this paper; and finally, self-control which is necessary at all times. Special talent or ability is desirable but not as essential as some of the other qualifications and the most necessary requirements of all is the ability to do hard work.

*Reference:* In the presentation of this topic, I have drawn from the following: *Medicine*, by Chloris Shade; *Professions and Vocations*, unknown author; *Making a Living*, by Lyon; *Guidance for Youth*, by Davis; *Health Heroes*, by Grace T. Hallock.



# The Health Bulletin

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## *A Model Health Department Float*

The above is a picture of the float designed by the employees of the Cleveland County Health Department and used sometime ago in the Centennial Celebration at Shelby. The Design was good, perfectly set up and illustrated a fundamental truth which must have impressed itself upon the minds of many of those who saw it.

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
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Flies	Disposal Plants	Water Supplies
Fly Placards	Sanitary Privies	Whooping Cough

### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 Months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months, 2 to 3 years; 3 to 6 years.
Breast Feeding	Instructions for North Carolina Midwives.
Infant Care. The Prevention of Infantile Diarrhea	
Table of Heights and Weights	

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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D., *Editor*

## Notes and Comment

By THE EDITOR

### Young Physicians Are Needed For Public Health Work

THE profession of public health is still young but in no field of public or semi-public activity in any way related to civil government has there been more progress than in public health. It is already established as a definite specialty in medicine. The need today is for young men highly trained as physicians who will resolve to take the necessary additional training as in any other specialty of medicine and to go into public health as a life work. The need is great for competent, highly intelligent and completely trained young physicians for this field.

A quarter century ago when public health work was just beginning to be accepted and was looked upon by many people as an experiment, there was no chart or compass to guide, and most of the places were filled by physicians who had reached middle age and they assumed their duties without further training. In many cases, these men have made successful and competent health officers, after going through a period of many years trial and error. There was no place at first to train them for their special duties. Today the situation is entirely different. Public health within the next quarter of a century will be one of the established and preferred specialties in medicine. There are ample facilities for special

training, one of the best institutions in the land being right here in the University of North Carolina.

The tendency is not to accept men over thirty-five years of age. A merit system of civil service procedure will soon be adopted to apply to all places in the State and local organizations to be filled in the future. This fact coupled with a retirement law with retired pay after a certain number of years' service and the attainment of the required age will probably be enacted by the current Legislature. These things will make tenure of office more secure, will make for freedom from partisan political considerations and should be conducive to highly satisfactory service rendered to the people of the State.

There are still about nineteen counties in the State having no whole-time organization. Very soon it will be essential that these counties become organized. Therefore, many new places will be available for competent men. In some of the cities and many of the counties, the present officials are nearing the age limit for active work and new and important places will be available from time to time. Unless young physicians in this State qualify for such places and apply for them, it will be necessary for the further satisfactory conduct of public health work to fill such places from the ranks of applicants outside of North Carolina. It

is hoped that the more able young men who are now completing their college training may see fit to take up the profession of public health.

\* \* \* \*

### **Advantages of Medical Meeting In One Section Over Same In Multiple Sections**

We have been requested recently by a number of physicians whose opinion we highly respect to edi-

torialize on the tendency of so many medical organizations, as well as some public health organizations, to break down their activities into multiple sections making it impossible for any one individual to know what is going on in one of the annual meetings in many of the departments. We have in mind two or three organizations which continue to stick to the meeting in one section to the great advantage of all those who attend such meetings.

One of the most successful we know of is the Tri-State Medical Society of Virginia and North and South Carolina. By the way, the annual meeting this year will be held in Greensboro late in this month. All speeches, scientific papers, and discussions are held in one room and all of the members or those in attendance have the opportunity to hear all that is said and to know all that is going on. It is really a post-graduate course of great importance to those who attend.

Another such meeting is the North Carolina Public Health Association. Up to this time this organization, launched in 1911, has presented its program in one section. It has always been largely attended, attention has been profound, there has been no running in and running out by most of the members which disturbs the few faithful who are trying to get something out of the meeting as in so many of the organizations that have multiple sections, everybody

hears what everybody has to say, and whatever information is disseminated is available to all.

Our friend, Dr. James K. Hall of Richmond, has recently written us that he had just attended a meeting of the Southern Psychiatric Association in Jacksonville, Florida, in which the single-section policy was followed. Dr. Hall writes that it was one of the most profoundly interesting meetings he had ever attended.

We realize that in the large organizations this plan would not be so easily carried out. At the same time, it should be a major policy and the sectional meetings should be only an adjunct. It is easy enough to do if the kind of a program is worked out which would appeal to a large number of members.

\* \* \* \*

### **Sale of Lye Should Be Outlawed by Legislature**

We have before us as we write these notes a newspaper clipping from a local paper giving the ac-

count of a little two-year-old Negro boy who died in a Raleigh hospital not long ago from drinking a quantity of lye mixed by its mother for scrubbing the house floors and who left it standing while she went to the door to dicker with a salesman.

Dr. Arena and Dr. Davison of the Duke Medical School have presented figures which have been published in *THE HEALTH BULLETIN*, listing the large number of children who have been brought to Duke Hospital within the last ten years as a result of lye poisoning, and also the large number of such cases who died after agonizing and prolonged illness.

At the present time, there is no excuse whatsoever for such poisons as lye to be sold under any circumstances. There are literally hundreds of cleaning powders and lotions on the market, reasonable in price and effective when

used properly, which would take the place of lye. It should be definitely outlawed and a penitentiary sentence imposed on any dealer, wholesale or retail, in this State who ever sells another package of it.

\* \* \* \*

## The Silent World of the Deaf

From now on we do not propose to let many issues of this publication pass by without some-

thing recorded concerning the plight of the deaf people in our State and the problem that they present in the economic and social field particularly. This month we are presenting a statement by Dr. James Watson explaining the formation of a committee in the American Society for the Hard of Hearing.

In fairness to all concerned, we realize that there is one tiny redeeming aspect in the almost total calamity of deafness. This one little saving feature was recently set forth in a few delightful words by a woman who writes a column for the *Statesville Landmark* under the title "Fitful Flashes." The column is unsigned and we do not know the writer, but we would like to state here that her column has given the editor of THE HEALTH BULLETIN a lot of pleasure during the last few years. The paragraph follows:

"A man came in for the *Landmark* and laid down on the desk a volume of Hugo. Soft spoken, we had to ask again for his initials and he lifted a speaking tube then indicating he did not hear. 'Tell it in there,' he said, 'I can't hear but I get to read a lot more,' and he touched his book with a smile. He seemed so calm, content and happy we had the feeling that he hadn't always been deaf—had listened long enough in this world to appreciate perhaps the blessing of ears closed to insane, tiresome noises of everyday living but open wide to the still, deep voices that speak through books."

## Maternal and Child Health Service

We can do no better to close these musings this month than by quoting from a letter received just

as we go to press from one of the ablest county health officers in North Carolina. In this county, intensive efforts have been carried on for the past three years in demonstrating a practical program of maternity and child health service work. We quote:

"I am beginning to see a great gain from our maternity mortality, still, on the other hand I believe that infant mortality rates will take a much longer time. Why? Because of the low social and economic position held by the majority of our patients. Birth control is the answer to the lowering of the infant death rates because morals are very lax among the Negroes in many parts of this county and our illegitimate birth rate is high and lots and lots of these mothers don't care and in many instances are glad when the baby doesn't live. Then among the married mothers, some of them have such large families that when they lose a baby they say 'the Lord knows best.' Then we have a number of mothers that have syphilis. This, also, has an influence on our mortality rate. Our syphilis program is worrying me, as we just don't have the time to follow up our delinquents and I know that with many of our VD patients it is a matter of transportation. I am sorry to say that as yet the public hasn't been fully awakened to the necessity of treatment and you know that our landlords just don't realize that 'the old nigger is sick,' but 'he is just trifling and not worth a damn' according to their ideas. Then, too, they can't see the necessity of letting their men stop work for two or three hours to 'take a shot' when they are not sick."

## A Purely Personal Editorial

(For My Friends Only)

By G. M. C.

**E**IGHTEEN years ago this month, Dr. W. S. Rankin, then State Health Officer, came to my corner in the old "Red Brick" building where I had been for many years directing the State School Health Service, and told me that I was promoted to the position of Assistant State Health Officer. He said that a part of my duties would be to edit *THE HEALTH BULLETIN* and "keep it going."

During these eighteen years I have somehow met the deadline once every month, and at least started it out regularly to the readers who wanted it.

In some ways the month has many times been an eventful one to me. My parents were married in February. In this month our first daughter was born—to die of colitis, accidentally contracted, nineteen months later. Her death changed the whole course of my life. Before that heartbreaking event I was interested in the administrative phases of public health work. When she so needlessly died, I pledged myself to devote my remaining years to work ceaselessly with everything I had to protect other babies and their mothers from such tragedy. That was twenty-five years ago.

Again, it was February when our second daughter and baby of the family was only a few months old her mother suffered a dangerous and prolonged illness and for a year following I naturally had to be mother as well as father to her. Recently that Baby suddenly became a young woman, married and has gone away to live in a large city far from Raleigh. She has been a lovable, dutiful daughter, making the separation all the harder. But as she so cheerfully sets forth with the nice young man of her choice, we pray that

health and happiness may be hers, and that there may be but a very few shattered illusions.

All of this leads me to the place I am trying to get to. It is to recognize here humbly, but with joy and satisfaction, the spontaneous exhibition of affection and good will shown us by our associates here in the work upon the occasion of our "Baby's" wedding. From Dr. Reynolds all the way down to James, we want all of you to know how much your kindness and consideration has meant to us. In coming, and perhaps harder, years it will be something to hold on to.

The upsetting experiences attending such an occasion, coming just before the Christmas holidays made it impossible for us to physically or mentally enter into the happy exchange of greetings with friends as always. We received a larger number of more interesting and beautiful greetings than ever before. To all those good friends who so remembered us, from Mexico City to Massachusetts, we hope that this year may be your happiest and your most successful.

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### School Sanitation —

#### And the Lack of It

A few days ago we received the following card from a patron of a large school in western North Carolina: "I think it my duty to write you about the toilets at our school. They are not decent enough for a dog, let alone a human, to go in. I think you must do something about it. I am stopping my four small children from school. It does no good to complain to the school committee."

On receipt of the above we wrote at once to the local health officer requesting him to have an investigation made. Here is his reply, in part: "On receiving your letter concerning the complaint about the toilets at the blank school, the county sanitarian and I went to the school to investigate. Any complaint that you have received is more than warranted. The filth and stench were indescribable. . . . The boys and girls of the grammar grades and the high school boys, totalling about five hundred students, are forced to use six privies. After looking into the first one it was all I could do to keep my stomach on an even keel. We immediately took the matter up with the County Superintendent of Education, and though the situation will never be satisfactory until money is appropriated for indoor toilets, we have his assurance that the condition will be remedied at once as far as possible."

Here is graphically described a situation that exists in about one third of all the rural schools of the State. It illustrates the futility of expecting anything to be done about it until the "buck passing, run around" now existing is completely eliminated. The absurdity rests in the mess made of supposed regulations. Not less than three different State departments, three county departments, and the local committee all are supposed to have a hand. The fact is in such situations nobody does anything effectively. No one department can. The remedy is easy and the Legislature could apply it now. It is a single-paragraph law giving the State Board of Health full power and authority to close any school at any time which failed to provide adequate and reasonable sanitary facilities. Either that or break up the consolidations and go back to the one- and two-teacher schools and the gallberry-bush type of toilet.

## North Carolina's Oldest Sanitary Inspector Dies At Home In Rocky Mount

In the widespread war on preventable diseases in the State of North Carolina in recent years the work of the sanitary inspectors has taken on increasing importance. With more than four fifths of the counties of the State living under organized local health departments, the sanitary inspector is a substantial pillar in the organization.

The first man in the State of North Carolina to become a sanitary inspector and to remain continuously on the job until his death in Rocky Mount on Monday, December 2, was Peter J. Neal. Mr. Neal died in a local hospital at Rocky Mount, ending twenty-nine years' continuous service as sanitary inspector in that city. Mr. Neal was a Christian gentleman. He was a crusader for public health and to him more than any individual was due the fine health record in the City of Rocky Mount which has been established during recent years. At the time Mr. Neal became the first whole-time employee of the Rocky Mount Health Department, which was then headed by a part-time physician, the position of Rocky Mount in health matters, like so many other places in the State, was far from enviable.

Dr. H. Lee Large of Rocky Mount, a member of the State Board of Health for several years and formerly health officer of Rocky Mount, stated that Mr. Neal had served under five succeeding full-time health officers since the creation of a full-time health department. He said that Mr. Neal was not only a capable assistant but was a loyal and trusted friend. Dr. Large said further that Mr. Neal was "truly the prototype of the modern sanitary engineer who can profit much by striving to emulate

Mr. Neal's personality, his wisdom born of experience, his high sense of honor and keen perception of justice."

When Mr. Neal first went to work as a sanitary inspector of Rocky Mount, he was practically the whole health department. In those first years he specialized in cleaning up backyards, destroying the breeding places of mosquitos and preventing the pollution of water through the disposal of waste from many of the miserable shacks called homes by throwing it on the ground to pollute much of the drinking water.

Dr. J. Allen Whitaker, the present health officer of Rocky Mount, said that "Mr. Neal's honesty, integrity, and his devotion to the welfare of his fellow men will forever be a worthy pattern for all who work in the field of public health."

Dr. Roy Norton, who was health officer of the City of Rocky Mount during the depression years from 1931 to 1935, pays high tribute to Mr. Neal and his work in the following words: "A more loyal, diligent, dependable, honest man I've never known. Nothing goody-goody about him, but he was thoroughly good to the core at all times and everywhere: on the job, and off, as husband, as father, as churchworker, in dealing with everyone. He went about his work quietly and with thoroughness, always working on plans to do it better, more efficiently and expeditiously, proud of the progress made, patiently and solidly

moving forward, making haste slowly during the depression when just those qualities were needed. He never made the headlines and he limited his public speaking largely to the Sunday school class of young men he taught. So far as I know, he never published a professional paper nor spoke before a group of sanitarians—though we all urged him to do both. But no story of sanitary progress during the last thirty years in North Carolina can disregard his contribution."

The foregoing tribute to the highly successful and efficient service of what might be called a private in the ranks of public health workers is fully justified in receiving an honorable place in these columns. For fully thirty years, the editor of THE HEALTH BULLETIN feels that he has been also one of the workers in the ranks and he has come to appreciate more and more the contribution made by such men as Mr. Neal in everyday duties necessary to the protection of the public health. Many of these people and the workers in all the other ranks of public health who, as Dr. Norton says, seldom or never make the headlines, yet contribute substantially to the success achieved in preventing disease in this State and making it safer for every citizen in the State. It would be impossible to carry on satisfactorily the work of public health without the unselfish contribution of such persons as Mr. Neal.

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## Scabies or Itch

By RALPH SYKES, M.D.

State Board of Health

**S**CABIES is an acute infection of the skin that is caused by the itch mite or the *Sarcoptes scabiei*. Simple scabies or itch is characterized by the formation of vesicles or blister-like

eruption and papules accompanied by itching.

Scabies in man is practically always caused by *Sarcoptes scabiei* and is seldom caused by any of the several va-

rieties which infect animals. The itching and irritation of the skin is caused by an acrid fluid which the parasite secretes in the skin while the secondary infection of the skin that usually accompanies scabies results from the individual scratching.

The female mite after being implanted on the skin usually burrows into the top layer of the skin or epidermis, creating tunnels  $1/16$  to  $1/4$  inch or more in length. The eggs hatch in from four to five days and usually become adult mites in three weeks. The males and newly matured females are to be found under the scales and crust on the surface of the skin. The female lives from three to five weeks and deposits from 25 to 50 eggs. The activity of the mite is governed to a very considerable extent by the warmth of the skin. Active burrowing takes place when the skin is warm and ceases when it is cold.

Scabies is not a class disease. Although scabies is seen more in the clinic, it is by no means confined to the poor and unhygienic. Scabies is a disease of herding, travel, or family, school and vacation life as well as of armies, tenements and slums. It may invade the private school as well as the public school. Scabies does occur much more frequently among people in the lower strata of living where there is excessive crowding, lack of bathing facilities and where the underclothing must be worn for a long period of time without changing or cleaning.

During the last World War there were 8.38 admissions for scabies per 1,000 strength among all troops. In the United States Army in 1929 there were 4.76 admissions for scabies per 1,000 troops. Figures are not available to show the prevalence of scabies among the civil population of this State. Among the school children in some districts and in crowded tenement districts, it is much higher than one would expect.

The source of infection of scabies is the person with scabies. The itch mite is transferred by direct body contact and through the medium of personal clothes and bed clothing. The clothing of persons who have had scabies may remain infected with the itch mite and capable of transmitting the parasite for at least eleven days.

The diagnosis of scabies at times can be rather difficult due to the fact of secondary infection or lack of suspicion or confusing it with other conditions which resemble this infection. The main characteristic points are the breaking out of the skin, usually a thin zigzag line slightly elevated—under a magnifying lens is a series of black or gray dots about  $1/4$  inch long. Also small papules and bluish vesicles may be present. There are usually scratch marks present that gives one the evidence that constant itching has occurred. The location of the breaking out or rash is very characteristic. It is usually symmetrical, rarely occurs above the shoulders and avoids the palms of the hands and soles of feet. The breaking out or rash appears thickest on the webs of the fingers, on the inside of the wrist and elbows, in and around the armpits, around the waist and ankles and on the buttocks. The number of lesions may be many or they may be few. There are usually more in unhygienic people than in cleanly people. If one can find the itch mite that is present at the end of the burrow by the use of a magnifying lens, this establishes the diagnosis. This cannot always be found. One of the most characteristic features of this infection is that severe itching usually occurs at night after one goes to bed or when one goes into a warm room. If one is in doubt about the diagnosis, an examination of the other members of the family will usually assist in confirming one's suspicion. Scabies is a familial disease.

Rarely does only one case occur in a family. In most instances if a careful examination is made, with all clothes removed the entire family will be found to be infected.

The successful treatment of scabies depends mainly on the following three points:

1. Use of the proper drug.
2. Treating all infected members of the family at once.
3. The proper cleaning up process after treatment.

One of the most reliable drugs for treating scabies is usually some form of sulphur. There are several other drugs that can be used but most of them are irritating to the skin. There are numerous prepared drugs that can be purchased but these are usually of little value. The best and most successful method of securing the proper drug in the correct proportion is to go to your physician and stay under his care until you are cured. A baby or small child cannot use sulphur in the same proportion as an adult. If one uses a drug that is too strong or uses it too long, a severe irritation of the skin will occur. This irritation or itching of the skin is nearly as bad as scabies itself. This requires the application of some soothing solution as calamine lotion rather than additional sulphur ointment.

Before any drug is applied to the skin it is very important to take a good hot bath, soaking the body well and scrubbing all parts of the body, especially those parts affected, with strong soap and a brush. After the bath rub the body briskly with a rough bath towel. This bath and rubbing of the skin is done for the purpose of opening all burrows so that when the drug is applied it will reach the itch mite. When the drug is applied rub it well

into all parts of the skin except the face and scalp. The following routine is recommended by Dr. Stokes:

*First night*—Hot bath and dry the body as directed above. Apply the ointment to all parts of body except face and scalp. Special attention to hands, wrist, armpits, waist and groin.

*Next morning*—Rub on ointment again, without bath. Wear same clothes and underwear.

*Second night*—Rub on ointment third time without bath.

*Second morning*—Bathe thoroughly, do not apply ointment, powder the body with some mild talcum powder. Change all clothes and bed clothes.

It is very necessary that all members of the family who are infected take the treatment at the same time. If this is not done, it does one member of the family very little good to cure himself as he will be reinfected from the other members. Scabies is a familial disease.

The cleaning up process is a necessary part of the successful treatment of scabies. All clothing and bed clothing that has come in contact with any infected member of the family should be sterilized either at home by boiling or sent to a laundry. All clothing that cannot be boiled should be sent to a reliable dry cleaner. If the above instructions are not carried out one will be reinfected from the clothes or blankets that contain the itch mite.

A failure to cure with the first course is occasionally encountered and should be handled with care. A person should wait at least a week before the regimen should be repeated. In some people with easily irritated skin it is best to wait two weeks. A relapse should always be a signal to inquire as to how thoroughly the patient has followed instructions, and it is also a signal to search for additional infected contacts.

If one will follow the instructions of their family physician (which is usually similar to the above outline) there will be very few relapses.

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## Doing Something About It

By JAMES WATSON, M.D.

Director of Division of Mental Hygiene  
State Board of Charities and Public Welfare

READERS of THE HEALTH BULLETIN are aware of the splendid work Dr. R. A. Herring of High Point has been and is doing for the hard-of-hearing people in his community. It is probably also known to many that in 1937 the North Carolina State Board of Health began a program of audiometer tests in the public schools which has been carried on continuously since, and recently done at High Point in cooperation with Dr. Herring.

The American Society for the Hard of Hearing has for chairman of its Committee on Legislation Conrad G. Selvig, formerly Congressman from Minnesota. He has appointed as chairman of this committee in North Carolina Miss Margaret M. Thompson of Asheville. Miss Thompson was associated with the Board of Public Health program in 1937 and is peculiarly fitted to hold the office of State Chairman. Under her leadership a group of interested and influential citizens will keep before the people of North Carolina the legislative program of the national society which is as follows:

1. Compulsory hearing tests for all children at regular intervals by competent scientific methods.
2. Proper medical follow-up treatment and care for all in need and instructions to parents as to its necessity.
3. Remedial instruction in the form of lip reading from primary grade through college. Special training in speech and voice where necessary. Group hearing aids in every school where there are five or more hard-of-hearing children.
4. Vocational guidance.
5. Adult classes in lip reading serving the hard of hearing in all communities in the State.
6. Assistance to the hard of hearing in search of employment and a fair deal under Civil Service rules.
7. A full-time director of work for the hard of hearing on the staff of the State Department of Education.
8. Training courses for teachers of the hard of hearing in every State teachers' college.

Our State schools for the deaf are doing excellent work but the problem calls for much more than institutional efforts if the 10,000,000 adults and 3,000,000 children with impaired hearing in the United States are to be helped. The above program calls for many approaches to their needs in order to enable them to become happily adjusted citizens in their communities, living a normal life among their fellows rather

than the segregated life of inmates of an institution.

The president of the American Society for the Hard of Hearing is the Hon. James R. Garfield who was Secretary of the Interior under Theodore Roosevelt. In a recent letter to him President Franklin D. Roosevelt expresses his appreciation of Mr. Garfield's work and speaks of it as a part of the total national preparedness.

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## The Control of Syphilis

### The Practitioner's Problem\*

By J. LAMAR CALLAWAY, M.D.

Durham, North Carolina

**P**ERHAPS I should apologize to you for discussing syphilis control when the local, State and Federal programs have been emphasized so strongly during the past few years. However, I feel very strongly that syphilis control is essentially the practitioner's problem and today I would like to bring to your attention what I consider essential factors in this control.

In an effort to simplify and sloganize the material presented I would like to make use of certain tables.

#### Control of Syphilis

- I. Easily available diagnostic service for general population:
  - (1) Dark field examination.
  - (2) Serological examination.
- II. Follow-up to retain patient under treatment until non-infectious.
- III. Treatment of infectious patient until minimum of twenty doses of arsenical have been given.
- IV. Facilities to aid physicians in diagnosis and management of patients:

- (1) Consultation service (fluoroscopy, etc.).

- (2) Free drugs.

- (3) Adequate follow-up.

The North Carolina State Board of Health has made available serologic examination and dark field examination for all physicians throughout the State. Although the typical characteristics of the Hunterian chancre are known to everyone, in no case can the diagnosis of a primary lesion be made clinically. In a like manner, if a patient gives a history of exposure to a person known to have syphilis, and although at the time of examination presents lesion in the mouth, around the genitalia, and over the body that are characteristic of the picture usually seen in secondary syphilis, the diagnosis cannot be made without demonstrating *Spirochaeta pallida* in the lesion and/or demonstrating a positive serologic test.

The infectious patient must be retained under treatment without rest periods until a minimum of at least twenty doses of arsenical have been given. The North Carolina State Board

of Health has public health nurses who are available for follow-up work and can follow delinquent patients. Fortunately we have available in North Carolina public health clinics and private clinics that can render consultation service—including fluoroscopy, spinal fluid examinations, and adequate follow-up of delinquent patients.

Certain maxims in early syphilis are included in the following table:

#### Maxims in Early Syphilis

- I. Diagnosis of infectious syphilis is purely laboratory.
- II. Start treatment with an arsenical and continue without rest periods.
- III. Minimum of thirty doses of arsenical and forty of heavy metal.
- IV. Family follow-up essential.
- V. Spinal fluid examination before discharge obligatory.

This chart is fairly self-explanatory but I would like to emphasize that there should be no rest periods during the treatment for early syphilis. Rest periods predispose to infectious relapse, fixed positive serum tests, and neuro-recurrence. The minimum of thirty arsenicals and forty heavy metals has been established by clinical coöperative group studies and represents the experience with many thousands of patients. The spouse, children, and other familial contacts in addition to extramarital contacts must have a careful investigation to rule out syphilis. Spinal-fluid examination is not optional but must be performed on every patient.

Latent syphilis, or the "hidden stage" of syphilis, also embraces established maxims.

#### Maxims in Latent Syphilis

- I. Diagnosis depends on repeatedly positive serum tests.
- II. Spinal-fluid examination to eliminate syphilis of the central nervous system.

III. Fluoroscopy to eliminate cardiovascular syphilis.

- IV. Start treatment with a heavy metal. Never start with an arsenical.

Since the diagnosis of latent syphilis depends on serological rather than clinical methods, it is very important that repeatedly positive blood tests be demonstrated. If there are any conflicts in the serological reports, the blood should be tested in several different laboratories. Since the exact status of activity in latent syphilis is obscure, spinal-fluid examination must be done to eliminate the possibility of syphilis of the central nervous system, which, of course, requires a different type of treatment. In a like manner, fluoroscopy of the chest or X-ray visualization of the heart and great vessels must be done to eliminate cardiovascular syphilis. Treatment of latent syphilis should begin with heavy metals and never with an arsenical because of the danger of therapeutic shock and therapeutic paradox. It is well known that if syphilitic aortitis is present and treatment is begun with an arsenical, the rapid involution of the syphilitic process around the coronary arteries may result in increased scarring and the production of a coronary stenosis. Although the patient is cured of his syphilitic aortitis, coronary stenosis has been produced—what Stokes calls the "fatal cure." Recently we have observed a patient with syphilitic foci in the spinal cord and following therapeutic shock due to the intensive treatment with an arsenical, a transverse paralysis developed from the waist down and the patient has been completely paralyzed since. Therefore, it must be emphasized that patients should be prepared with heavy metal such as bismuth before beginning treatment with an arsenical in the latent phase.

In late syphilis there are also certain other maxims that are to be considered and they are listed in the table below.

#### Maxims in Late Syphilis

- I. Do no harm.
- II. Cardiovascular syphilis and syphilis of the central nervous system usually require special therapy. Consultation advisable.
- III. Prenatal (congenital) syphilis inexcusable.
- IV. Treat all pregnant mothers ending treatment with an arsenical to protect physician and nurses.

I think that for the physician who does not have available certain diagnostic and therapeutic facilities, central

nervous system and cardiovascular syphilis require consultation. As everyone knows, prenatal (congenital) syphilis is inexcusable. If pregnant mothers were treated throughout their pregnancy, there would be no unfortunate results as we see them today. The pregnant mother should be treated throughout the duration of her pregnancy, ending the treatment with an arsenical to protect physicians and nurses from exposure to infectious material.

Other intricate problems arising require consultation with doctors especially trained in the diagnostic and management of the individual case.

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\*Paper presented to the Fifth District (N.C.) Medical Society, meeting at Fayetteville, October 4th, and published in December, 1940, *Southern Medicine & Surgery*.

## Midwife Training Emphasized in Halifax County

By MRS. LOUISE P. EAST, *Supervisor of Nurses*

**T**RAMP, tramp, tramp, the midwives of Halifax County have been marching! To group meetings, to physical examinations, to maternity and infancy centers, they have been marching! The climax of all this activity was reached on November 15 when forty-five of our fifty-one midwives met in Halifax and Dr. Emmett Lupton came over from Raleigh with motion pictures to show them. This was the first county-wide meeting of midwives held in this county, and, needless to say, it was a most enjoyable occasion for them.

On October 28 Miss Flora Ray of the State Board of Health came by our office and said that she was completing some work in another county and could come to us for midwife supervisory work in a few days. This was just what we had been waiting for, and on October 30 we began visiting

in the homes of these women who are directly on that firing line. It is they who ride over muddy roads on wagons, sometimes in the rain, to receive the new generation of their race and to minister to their needs. Many of them have had long years of service; some have grown old and feeble serving this cause. There are a few new applicants and their interest is encouraging because they seem to have intelligence and native ability. Some of the old ones have never learned to read and write. The new ones have been educated in our schools and we believe they will be keen to the problems that we as health educators and workers are trying to overcome.

We Believe the Halifax County midwives have been helped in their work and that they will take greater pride in the task they have set themselves to do.

## Future Emphasis on Population Should Be Placed on Quality

**Journal Says Slowing Rate of United States Growth Is Most Desirable In the Maintenance of Superior Economic Opportunities**

**F**UTURE emphasis on the population of the United States might well be placed on quality rather than on quantity alone as measured by the gross number of births, *The Journal of the American Medical Association* for December 28 declares in an editorial on "The Optimum Population of the United States." *The Journal* believes that the slowing of population growth in this country now manifest is not a condition to be viewed with alarm but one that is economically desirable.

"The changed complexion of national life which is portended by present trends in population has been discussed frequently by *The Journal*," the editorial points out. "All the evidence of probabilities foreshadows a more or less static population or possibly a slight decrease late in this century, with a shift in age groupings resulting in a larger percentage of the total in the older years and a smaller one of children.

"This prospect, though contrary to an accustomed pattern, need not give rise to alarm. If, for example, the productive age group is considered to be between the ages of 20 and 65, the percentage of the total population between these ages is sure to increase for another ten years at least and will, even in the event of a slight decrease in total population, remain amply sufficient to support the groups of the population which are dependent on account of age. The percentage in the groups dependent by reason of age may not

change much; with an increase in the number of elderly dependents a decrease in the number of children who are dependents is likely to occur. From a careful consideration of the probabilities, G. I. Burch concludes that serious economic problems are not likely to result from this change in proportion of 'youngsters' and 'oldsters' and that there is little chance of dependent old people controlling the economic and political situation. Those over the age of 65 can never hope to cast more than a quarter of the total vote of the nation, even if no changes are made to restrict their political influence—a possibility with which one must reckon.

"A favorable relationship between the number of people and the natural resources is vital to a democracy, Burch believes. Although the unparalleled prosperity which the United States has enjoyed in the past has been closely associated with a rapid increase in population, it should be obvious that its continuation is not dependent on a similar rapid rate of population growth and would indeed even be hindered by a too rapid growth. Recent studies of diet, of land that can be safely cultivated and of this country's capacity to produce and consume have thrown new light on the subject of optimum population for the United States. As pointed out in a study of the Brookings Institute, it would seem that a reasonable minimum aim of our national economy would be to provide the entire population with a liberal diet which

would furnish adequate nutrition, a substantial margin of safety in respect to vitamins and minerals, and a satisfying variety of foods.

"To reach the minimum standards proposed would require an increase in the volume of production over that existing in 1929 of all kinds of consumer goods and service by something like 70 to 80 per cent. In brief, and employing optimistic assumptions which are far removed from existent fact and may not be possible of attainment, it would require a national income of some 146 billion dollars to support 128 million persons at the minimum 'optimum' standard of living and assuming an even distribution. However, the population has already exceeded this number (about 132,000,000) and the national income is only about half of the suggested figure. Furthermore, it is almost certain that the population will grow by at least 20 million more by 1980 not including foreign immigration, and even this estimate postulates a decrease of about 25 per cent in the birth rate over the next forty years.

"From these studies it may be concluded that the slowing of population growth now manifest is almost certainly a desirable feature in maintaining the superior economic opportunities which place this country in a relatively favorable position as compared with the crowded countries of Europe. The figures also show that there is no need to fear either a lack of available workers or a lack of potential soldiers to meet any threat. Burch likewise rejects the hypothesis that a high birth rate is a measure of vitality and a low birth rate a measure of national decadence. Economic and social conditions appear to be the real controls of the birth rate and population growth. With the picture of the true meaning of population

trends becoming gradually clarified, future emphasis might be placed on quality of the population rather than on quantity alone as measured by the gross number of births. It is at least certain that there will be no shortage of workers or consumers and no overwhelming proportion of dependents in this country in the immediate visible future."

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## NATIONAL SURVEY OF REGISTERED NURSES AS DEFENSE EFFORT

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EDNA L. HEINZERLING, R.N.  
*Executive Secretary*

N. C. State Nurses' Association

With the United States Public Health Service as sponsor and the three national nursing organizations as co-sponsors, a survey of all graduate nurses who have ever been registered in any state in the United States is now being conducted.

The coöperation of all registered nurses and all interested persons is desired as it is hoped to gather information from this survey that will enable the community to call on the available nursing resources in time of emergency for military or civilian duty. The Nursing Council of National Defense is certain that there are many inactive nurses who would be happy to serve their country in time of crisis.

Requests for questionnaires and full directions may be secured by sending a postal card with the name and address to Edna L. Heinzerling, Special Agent, 415 Commercial Building, Raleigh.



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## *Dr. T. W. M. Long, Senator from Halifax*

**DIED FEBRUARY 3, 1941**

Public health work in North Carolina lost one of its ablest and most effective advocates in the death of Dr. Long. For more than a quarter of a century he has been a consistent supporter of public health. In his home town, county, and most successfully of all, in the General Assembly in one or the other Houses for nearly every term during the past twelve years he has exerted a potent influence for the benefit of all the people. As a high official of the State Medical Society his has been a steadying influence. In short, Dr. Long was a statesman and he will be sorely missed.

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
Diabetes	Malaria	Typhoid Fever
Diphtheria	Measles	Venereal Diseases
Don't Spit Placards	Pellagra	Vitamins
Eyes	Residential Sewage	Typhoid Placards
Flies	Disposal Plants	Water Supplies
Fly Placards	Sanitary Privies	Whooping Cough

### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 Months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months, 2 to 3 years; 3 to 6 years.
Breast Feeding	Instructions for North Carolina Midwives.
Infant Care. The Prevention of	
Infantile Diarrhea	
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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D., *Editor*

## Notes and Comment

By THE EDITOR

**Death of Dr. Stiles** A BRIEF item sent out by national news services a few days before we go to press for this issue announced the death in Baltimore of Dr. Charles Wardell Stiles. His name was familiar to every physician and newspaper editor in the South from 1903 on for at least twenty years. In 1903 before the North Carolina State Medical Society meeting in the old hotel building at Hot Springs, North Carolina, in Madison County, Dr. Stiles presented his theory concerning the ravages of hookworm infection among people of the South to the assembled physicians of North Carolina. Dr. Stiles was not a physician, he was a zoölogist. He was a staff officer of the United States Public Health Service at the time and since until his retirement and death. Many of his hearers in the medical profession listened with considerable scepticism to his proposals but a majority of them accepted his findings as facts and set about coöperating with the Public Health Service in doing something about it. At that time there was not a whole-time county health officer in the United States and it was some years before such an organization was formed anywhere in the country and particularly in the South. North Carolina had one of the first and he began work in 1911.

The work of Dr. Stiles in persuading John D. Rockefeller, Sr., to donate a mil-

lion dollars to the cause in the South resulted in tremendous benefit to the whole country. Under Dr. Stiles' supervision, each one of the states of the South set up an organization known as the State Hookworm Commission, composed of the State Health Officer and others. The work of this commission reached down into the individual counties. The medical profession and the part-time county physicians did yeoman's service in organizing the clinics where people could come for examination as well as treatment for hookworm infection. This was the first organized step toward modern health department practice in the way of organized service. For more than 30 years prior to that time such men as Dr. Richard F. Lewis, Thomas F. Wood, S. S. Satchwell and others in the medical profession were hammering away on the idea back of public health and its necessities in modern civilization. The work originated and directed first by Dr. Stiles carried this idea down to the remote communities all over the South and should and will receive an important place in the history of the South when it is finally written for posterity.

In connection with Dr. Stiles' death several of our state newspapers commented. We can do no better in closing this editorial note than to quote from one of these editorials. We take the following from the *Twin City Sentinel* of Winston-Salem:

#### "GREAT BENEFACTOR DIES"

"The death of Dr. Charles Wardell Stiles a few days ago removed from the American scene one of the South's greatest social benefactors.

"Dr. Stiles discovered the germ of laziness; in brief, the hookworm. His pioneering in the eradication of hookworm occurred during the years immediately following the turn of the century, along about the same time that Aycock's campaign for better educational facilities was being conducted in North Carolina.

"Hookworm clinics were held all over the South. Thousands of victims were treated. The subject was played up in the press. Many people who became indignant at the very suggestion that some Southerners were lazy because they were infected with hookworm, were finally convinced against their will that the work instituted by Dr. Stiles was achieving remarkable results.

"It is of more than passing interest that from the time of the hookworm campaigns, 1905-1909, the South has made more progress than during any other three decades in its history. Especially is this true of North Carolina.

"The hookworm crusade was not the sole cause of renaissance in the section. The leaven of education was at work, new capital was coming into the area, and other influences played a part. But it helped and helped tremendously.

Following Dr. Stiles a few years later came Dr. Goldberger to find a simple and economic preventive and cure for the dread pellagra. Dr. Wiley and other health specialists, national and state, were pounding away at tuberculosis, typhoid, and other maladies. New health facilities sprang up in the South and county-wide immunization campaigns were staged regularly. With the improvement in the public health came new mass energy and community enterprise.

"It is believed now that the hookworm is largely a thing of the past. But in our striving to wipe out other diseases it might not be amiss to check and recheck on the hookworm. In many places this parasite which works its way into the skin of folk who go barefooted in summer may be inching back. Thus, just as his efforts in life served to redeem seven million Southerners from the malady, his death may act as a reminder of the possibility that the war is not entirely won, that there may be hookworm victims even now who stand in the need of redemption."

\* \* \*

#### Time to Prepare a Garden

All of the older readers of this journal are aware of the fact that we have advised always alive-at-home program when humanly possible for the people of this State. Right now when millions of people in the world are on the verge of starvation it is more important than ever that an abundance of food be produced all over North Carolina. Before the summer is over it is entirely possible that the cruel and brutal masters of Germany who have already overrun and burglarized and looted all of the countries surrounding them may extend their ravages to include many other countries in the world, including our own, in their work of murder and destruction. All older people know that one of the first moves made in any war for defense or otherwise is the regimentation of every form of civil activity. For example, in the countries of Europe no one is allowed to use an automobile now for private use except in the emergency cases of physicians in the towns, all of the gasoline supplies and the automobiles are reserved for the military.

Dependent as all of our larger cities, even in North Carolina which has no inordinately large city at all, on trans-

portation service for the distribution of food often produced far away, serious suffering would soon ensue in case of a war of any kind. The South has suffered one time conquest and invasion and those of us who were born soon after that or during the time of this disaster are well aware of what hunger and starvation did for many people.

In order to avoid such dangers as well as to prepare for better health, every family who can possibly produce a garden and an abundance of food supplies should get busy about it during this month. There is another health aspect in having a garden and that is the exercise and satisfaction and contentment that come with the endeavor. Everything to be said for a family garden is favorable and there is not one adverse element about it except the jay-birds and the neighbors' chickens, and that could properly be handled.

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### **Pitt and Beaufort Counties Report on Maternal and Child Health Services**

We feel very proud of the record made in two respects by the health departments in Pitt County and in Beaufort County in the year 1940 in the field of maternal and child health work. In Pitt County attendance on the orthopedic clinics increased from 311 in 1939 to 378 children in 1940. The attendance in the maternal and child health clinics increased from a total attendance of 1755 in 1939 to 2,394 in 1940. In 1940, 1,190 babies were examined and cared for in the infant clinics in Pitt County. Dr. Ennett expressed the point that "much of the growth of these mother and baby clinics was due to the good work of the clinicians and the untiring efforts of the health department nurses."

From Beaufort County, Dr. Ford, the health officer, reports that in 1940 there were 370 colored births, including still-

births, in that county. He reports that 332 colored women were admitted to the maternity service conducted by the health department with the aid of some members of the medical profession in Beaufort County during the year. That means that 90 percent of the expectant mothers among this indigent class of people were given the privilege and benefit of medical examination during the year. Dr. Ford has not yet arranged for pediatric clinics in his county. It is to be hoped that this service will soon follow.

The reports from both these counties are highly encouraging and both health officers have the gratitude of this division in large measure.

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### **Dr. Milam and His Work in Nutrition**

Right here we wish to urge every reader to turn to another page in this issue and read the article by Dr. D. F. Milam under the title of "A Nutrition Survey in Chatham County." In simple language which any person, old or young who can read, should be able to understand. Dr. Milam describes a program which every family should and could provide. His article reduced to the simplest terms explains why every family should eat certain foods every day. We hope former Governor Gardner who worked throughout his whole administration to promote a "live-at-home program" will see and read it. All of us here who have ever been associated with THE HEALTH BULLETIN and the work of health education have earnestly urged a home garden and diversified diet for every family. The food necessary for maintenance of the best of nutrition can be produced right here in North Carolina. In fact, 95 percent of all food of every description necessary to maintain excellent health can be produced in abundance right here in this State.

Dr. Milam demonstrates again in his short sketch the truth that the greater the scientist the simpler his story is always told.

Now, for some of our new subscribers who do not know Dr. Milam it may be well to let them know who he is. Dr. Milam is a staff officer of the International Health Board. Upon the request of Dr. Parrott soon after he became State Health Officer in 1931, Dr. Milam was assigned to duty with the State Board of Health as a consultant. He re-

mained with the department here for about three years. His contribution to the general work of the State Board of Health during that terribly depressing period was probably the most valuable service the Rockefeller Foundation has extended to North Carolina since the work for hookworm eradication along about 1910. His present service should be of lasting value to the people all over this State, and we hope he may be allowed several years in which to develop it.

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## A Nutrition Survey in Chatham County

*By D. F. MILAM, M.D.*

ON January 1, 1940, the State Board of Health began a nutrition survey in a North Carolina community using all the techniques now known to be of value in assessing the nutritional status of a population. This is not as easy as diagnosing a measles epidemic, or making a hookworm survey in a community, but the aims are just the same and that is to find out the facts about a condition affecting adversely the health of the people and then doing something about it. Most anyone will admit that his food affects his health, but few can state exactly how it is affected and which one of the several foods are responsible for observed effects.

A nutrition survey is such a laborious proposition that only a small area can be covered. But there is a great similarity of living conditions and food habits among large groups of the people, and what is found out to be true in one community will fit a great many other communities as well. So the few communities that can be studied must serve as representatives for all the similar communities throughout the State, and allowances can be made for local vari-

ations in conditions and habits. And it is to be mentioned that the few communities chosen for this intensive study are fortunate in having a very concentrated health service furnished them and one which cannot be given to the State as a whole. For the first survey a rural community in Chatham County was chosen and the coöperation of the people in this community has made possible a successful outcome.

To begin with a thorough physical examination is given to every individual. This is comparable to the Life Extension Examination or periodic physical examination to find early symptoms of ill health and relieve them before they become fixed on the individual. And with the attention of the examining physician focused on defects of nutrition, a very helpful examination it has proved to be. Much chronic ill health, or in milder form, a lack of exuberant good health, can be remedied by proper attention to diet. These physical examinations have been done chiefly in the community school, where the examining clinic has been set up. Most of the adults were examined at the hospital where also the X-rays and tests for vision

were performed. The careful medical history taken at the time of the examination is very useful in pointing the way to individual problems. In particular the questions about what foods are eaten and how often, frequently gives an immediate basis for good, sound dietetic advice. There is great value in going over this question before the ill effects of food deficiencies accumulate into ill health.

In addition to the physical examination and medical history, there are two other important items in the survey. One of these is the examination in the laboratory of a sample of blood from each individual. As far as it goes this gives the best information of all. It reveals the results of our food habits on the internal environment of our body. In Chatham County this test revealed one deficiency which would probably be duplicated in every district in North Carolina. That was a shockingly low content of vitamin C in the blood. Vitamin C is the vitamin whose absence from the diet over an extended period of time leads to scurvy. We get vitamin C from fresh fruits and vegetables, particularly oranges and tomatoes and the green leafy vegetables, when these are eaten raw, or when canned in the absence of air, like the cold-pack process for tomatoes. In general oranges and tomatoes are the best sources, but excellent also are raw cabbage, collards, turnips, green peppers, carrots, strawberries and cantaloupes. Our bodies for best functioning need a daily supply of vitamin C. If none is taken in, or in too small quantities, our small current supply is quickly exhausted and then our body engine works at a lessened efficiency which if long continued will lead to the disease scurvy. It is probable that much "lack of pep" is due to too little intake of this vitamin. Now in Chatham County a surprisingly large

percentage of the people (86%) did not get enough vitamin C to keep their blood level up to standard. And just to check on this we examined a small well-to-do group living in Durham and found the same condition present. The remedy is so easy and most people should only need to have this vigorously brought to their attention, after which they apply their own remedy. And that is the eating daily of these life-giving raw fruits and vegetables. The home garden, in this sense, is truly the salvation of the people.

Last summer we observed a small group of 42 children from Orange and Durham counties to whom the School Health Coördinating Service gave a six-week day camp program as part of a teacher training program in better health. The children were given three well-balanced, low-cost meals daily. Nearly every one of these children started with a very low blood vitamin C, but at the end of the six weeks, during which they had eaten daily an ordinary ration of oranges or tomato juice and green vegetables, every one had a high level. No vitamin concentrates were used, and simple wholesome food turned the trick. Needless to say the children were a different lot at the end of the outing, with more pep, more interest and more coöperation evident to everyone.

But getting back to the nutrition survey, the blood examination also gives much of the useful information on what is lacking in the diet. And this information is supplemented by the other important item in the nutrition survey mentioned above. That is, the seven-day food intake record. Each individual records exactly what he eats each meal (and between meals) for seven days. The period is long enough to include any big meals, as on Sunday, and when calculated and divided by seven gives

a single day's average intake of food. In the Chatham survey a most interesting picture of the community food habits has been obtained by this method. For instance, if all the adult records are put together and averaged for the unit of a single individual, a generalized picture for the community as a whole can be assumed. Such a procedure shows that Chatham community has a caloric intake of about 2,000 calories per individual per day and that the portion of this that is made up of carbohydrates is low and the percentage of fat high (41%). The protein intake (meat, milk, etc.) is just on the borderline of normal (55 grams). However, the vitamin B<sub>1</sub> intake, which vitamin is found in the same foods as protein, is only about 60 percent of the recommended level. When this vitamin is low there is a tendency to decrease carbohydrates and increase fats, as has occurred here. A diet too high in fats is less digestible.

Riboflavin is a vitamin found at its highest percentage in milk and milk products, turnip and mustard greens, peanuts, liver, and to a lesser extent in many other foods. The riboflavin intake of this community is about one half to two thirds of the recommended level. About this same percentage of normal intake fits the two needed mineral elements, calcium and iron. The vitamin A intake is slightly below the recommended level.

The picture on the whole then is that of a community which needs to lift the level of intake in those foods which are good sources of protein, riboflavin, vitamin B<sub>1</sub>, calcium, iron, vitamin C. But in terms of food this can be translated as follows: Increase the individual consumption of milk and eggs, green vegetables, and raw fruits and vegetables. It is as simple as that. For milk is a good source of nearly every needed food element and is an excellent source of

protein, calcium and riboflavin; eggs also are rich in practically all the needed food elements and are particularly valuable as a source of vitamin A, vitamin B<sub>1</sub> and iron, and is one of the very few natural sources of vitamin D which is necessary for normal bone formation. Both of these foods are designed to supply the entire food to the very young organisms subsisting on them. They should be the mainstay of an adult diet as well as a child's. If now to milk and eggs we add cooked green vegetables and raw vegetables and fruits, we have included all the protective foods and insured our health against food deficiency diseases.

It is hard to get in the diet enough of the vitamin B<sub>1</sub> which is essential for healthy nerves. The best available good source of this vitamin is whole wheat bread. White bread has none of it. Ham is a source equal to bread and while not eaten in equivalent quantities is still a valuable source in counties like Chatham.

In the above discussion there is no mention of the occurrence of the anti-pellagra vitamin, nicotinic acid. The fact is that it has been impossible up to the present to estimate the amount of this vitamin in the several foods. However, it is a well-established fact that diets rich in the protective foods listed above will prevent pellagra. Milk, lean meat, eggs, together with fresh fruits and green vegetables, if taken in reasonably adequate quantities, will keep pellagra out of a community.

It all fits in with the "live at home" program. Families interested first in supplying these life foods to their members will eventually add all the other good things of life thereto. For health and energy spring from these and with health and energy the world can be conquered.

# Immunization Policy

of the

## State Board of Health for the Production of Active Immunization By Means of Biological Products of Established Value

### OPTIMAL AGE FOR IMMUNIZATION :

Smallpox vaccine should be administered before the infant is *three months* old. Reactions, contaminations and complications are less frequent at this early age.

*Whooping Cough*—At the age of *four months* infants should be inoculated at weekly intervals with four doses of an improved whooping cough vaccine.

*Diphtheria*—Children *nine months* old should be protected against diphtheria with two doses of Alum Precipitated Diphtheria Toxoid or three doses of Diphtheria Toxoid — Ramon. administered at intervals of four weeks to one month.

*Typhoid Fever*—At one year of age children should be given three doses of typhoid vaccine. This should be reinforced each year by an additional dose of typhoid vaccine.

If for any reason immunization procedures are not attempted at the optimal age, it is well to remember that it is usually better to be late than never.

Method of reinforcing immunity will be outlined in connection with recommendations concerning the individual products.

### DIPHTHERIA IMMUNIZING PROCEDURES

#### RECOMMENDED:

1. Preferably at the age of *nine months*, certainly before children enter school, they should be protected against diphtheria by (a) two doses of diphtheria toxoid, alum precipitated, with a four-week or one-month interval between doses, or (b) three doses of diphtheria toxoid at four-week or one-month intervals.

2. In communities where it is impracticable to give two doses of diphtheria

toxoid, alum precipitated, or three doses of diphtheria toxoid (1a or b), to all children between nine months and ten years of age, it will probably be found that the giving of one dose of diphtheria toxoid, alum precipitated, to a large number of children of this age group is more effective in preventing diphtheria in the community than the use of the two or three doses (1a or b) for half as many children.

3. To those children receiving one injection of diphtheria toxoid, alum precipitated, a single reinforcing dose of not more than one half the usual dose of an equivalent diphtheria toxoid, alum precipitated, preparation should be given to each child inoculated in infancy, just prior to the child's entering school at five or six years of age, or three to five years after the initial inoculation if this has been carried out at some time later than the first year of life.

4. Routine Schick test six months after the completion of inoculation in infants is desirable in private practice and whenever the personnel and conditions of access to patients at public clinics make this additional contact practicable.

5. (a) Children of ten years of age or over who are known to be susceptible as the result of the Schick test should receive three doses of diphtheria toxoid at four-week or one-month intervals or equivalent doses of toxin-antitoxin similarly spaced. (b) For susceptible adults who may be exposed by occupation to contact with the clinical or carrier stage of diphtheria, the use of diphtheria toxoid, alum precipitated, is not recommended. In the case of adults with occupational hazards (e.g., physicians, nurs-

es, attendants in hospitals for communicable diseases) we suggest:

- (1) Schick test.
- (2) A Maloney test on Schick positive individuals; that is, an intracutaneous injection of 1/10 cc of a 1-100 dilution of Diphtheria Toxoid—Ramon. Maloney tests are read in the same manner as Schick test and tuberculin test.
- (3) Give the Maloney negative and Maloney one plus reactors 2—1 cc doses of Diphtheria Toxoid—Ramon, subcutaneously at intervals of one month.
- (4) Give Maloney two and three plus reactors 3—intracutaneous injections of 1/10 cc each of a 1-100 dilution of Diphtheria Toxoid—Ramon at intervals of one week.
- (5) Perform Schick test six months after the last inoculation.
- (6) If any of the Maloney two or three plus subjects remain Schick positive, repeat the procedure outlined above.

The immunity produced by the administration of diphtheria toxoid is probably highest three or four months after the completion of the inoculations. It gradually decreases unless additional stimulation occurs.

#### TYPHOID IMMUNIZATION.

1. Initial administration of typhoid vaccine should be in three doses administered at intervals of one week.

2. Revaccination with a single dose of 0.1 cc of vaccine intracutaneously administered annually constitutes a reliable method of renewing immunity to typhoid fever, and should be the method of choice.

3. Revaccination each year with a single dose of 0.5 cc of vaccine subcutaneously administered also produces a

satisfactory renewal of immunity to typhoid fever. This procedure should be considered as an alternate method when conditions preclude intracutaneous administration.

4. In order to maintain a high degree of immunity to typhoid fever, as indicated by humoral antibodies, revaccination at one-year periods appears to be an advisable procedure. Certainly, it appears that the interval between revaccination should not exceed two years. It may be added that revaccinations at the intervals recommended should not be discontinued because of age nor because of any number of previous revaccinations.

#### Whooping Cough Vaccine or Pertussis

The experience with this vaccine has been limited to injections designed to prevent whooping cough. Inoculated children have been in the age group—six months to five years. There is no indication that the vaccine would be of therapeutic value. There is substantial statistical evidence that there is definite prophylactic value when used as recommended. It should be administered to children after they reach the age of four months; although it may be advisable to administer it to younger children, if whooping cough is prevalent in the neighborhood. It cannot be expected to protect children completely if it is administered after exposure. At least four injections at weekly intervals should be given.

*Smallpox*—Smallpox vaccine should be administered during infancy and again just before the child enters school. If a person is immune to smallpox, the administration of smallpox vaccine will not result in a primary take and no particular inconvenience will be caused. A successful take is proof that the person needed protection.

## "Down With Hookworms"

*So Says*

DAVID ROSE, Fifth Grade, William Street School  
Goldsboro, N. C.

I AM very happy to talk to you a little while on the subject of Hookworm Disease. This disease has been studied by doctors, nurses, teachers, and parents for about forty years, but it is my opinion that little thought has been given it by children. For the most part it is a child's disease and it seems to me that we children think more about the things which affect us. This disease is found mainly in the areas where malaria is found and therefore we have two diseases here which many other people in the world do not have. I just wonder what part these diseases found here in the South played in the Civil War? But when once we get a bad sore, a bad appendix, bad tonsils, or any bad disease the only thing to do is to get rid of it. It is true, I am told, that you can't get rid of bad diseases unless you know how to prevent them as well as how to cure them. The important thing for us to know is how to prevent hookworm disease and ask the doctors and nurses to look after curing the disease.

The grown hookworm is about one-half inch long. It lives in the small intestines and may live there for several years. The worm lives by sucking the blood from the wall of the small bowel. After the egg is hatched, the worm becomes grown in about six weeks, and then lays from five to ten thousand eggs each day. In order for the eggs to hatch and the little worms to grow, there must be warmth and moisture, which is found in the spring and summer in our section of the State.

When these little worms hatch from the eggs passed out through stools and get big enough to wiggle around in a warm, moist, dirty place, they attack

the skin usually of the feet and legs to cause what we commonly call "foot itch." This disease is called foot itch because it usually attacks the feet and causes severe itching. From here the little worms are carried by the blood vessels and lymph vessels to the heart, and in turn are carried from the heart to the lungs. The little worms crawl up to the tubes in our lungs to the throat and are swallowed to pass on into the small bowels where they hook onto the wall of the small intestines and grow until they are grown.

With this knowledge of how the disease spreads it seems clear to me that the way to prevent the disease is proper sanitation. If everybody lived in the city and would always go to the bathroom for their bowels to move, we probably would not have hookworm disease. But unfortunately, most people in the South live in the country where they do not have this type of sanitation. However, I believe that if these people once realized the great harm of the disease they would improve this type of sanitation. It can easily be done by building and using sanitary privies. It is also important to remove places in which the worms like to live, such as stagnant pools about the back yard or near the open privies. Then if the doctors would give us medicine to kill the big worms, we would drain off the stagnant pools, be more careful where we had stools, and build sanitary privies we would get rid of the hookworm disease.

I cannot understand how any of we children can grow, learn and be happy with thousands of these nasty worms

*(Continued on page 14)*

## Iredell County Medical Society Endorses Public Health Program

THE officials of the State Board of Health, some of whom have labored for a quarter of a century to extend and expand the public health program in North Carolina, were much gratified a few days ago to note that the Iredell County Medical Society in its first public meeting of the year had endorsed the proposed program to set up a full-time health department in that fine county. In many respects, Iredell County is one of the greatest counties in North Carolina. In view of the fact that eighty-one counties up to date have set up a whole-time health program, leaving only nineteen counties which have not done so, among them Iredell, it has often been a puzzle to many people as to why this should be the case. Anyhow, prospects for a full-time health organization with the usual benefits to accrue to the people in that county are at this time exceedingly bright.

We quote from the Statesville *Landmark* of January 16 the following news item about the medical society meeting:

"The Iredell County Medical Society, in their first meeting of the year Tuesday night, with the president, Dr. C. B. Herman, presiding, unanimously endorsed the proposed public health program for Iredell County.

"The meeting was well attended by members of the society throughout the county, and the dentists were invited guests. When the question of endorsement of a public health unit for the county came up for consideration there was no opposition registered, and the president, Dr. Herman, and the secretary, Dr. J. S. Holbrook, were instructed to appear before the board of county commissioners and give voice to this approval.

"The dentists who were guests expressed themselves as favorable to the health unit, also."

*The Landmark* devoted a great deal of editorial space in explaining the whole program for the people of that county so that it should be impossible for anyone to misunderstand the proposals and what should be expected from a coöperative department in that county. In this connection it gives us pleasure to quote further two editorial items from *The Landmark*.

First, "in connection with the costs of the program, it is well to keep in mind that the State and Federal governments have an equity in them, and abundant urge to keep them down. But it is also true that both State and nation have a stake in the public health, and both covet assets rather than liabilities. It is well to remember, too, that the State Board of Health is the one agency at Raleigh that is respected for its efficiency and its freedom from political guidance. State health officials are interested in only one thing, and they have a long record of achievement that has come from patient and sometimes discouraged effort. It follows, then, that the proposed health unit set-up stems from experience through tireless but resultful application of a carefully planned program. The fact that eighty-one counties of the State are coöperating with the Raleigh health authority is in itself proof of the merits of the program.

"But it should be understood in the beginning that the establishment of this program does not mean that right off everybody will become healthy and happy. And certainly the county's indi-

gents should not decide that henceforth they would be riding a gravy train, so far as their ailments are concerned. They will have a new help that hitherto they have not had, but it will be in the shape of counsel and advice and personal contacts that will not cure, but are meant to put them on the road to cure."

And further, "It is to be hoped that in the days ahead the Iredell County Board of Health will not degenerate into a rubber stamp for anybody or any combination of bodies. It has a definite

and important service to render that should not be toyed with in the well-known method of visitation with something to sign. When the members are called together in formal and serious purpose, a better and more intelligent understanding is born. It is the only way a board of health, of all things, can function with mutual satisfaction. It is refreshing, then, to see indications that the board as it is now constituted, means to take its job seriously, and, as indicated by the business transacted Monday—fearlessly."

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## Review of National Foundation for Infantile Paralysis Report

*By J. T. BARNES, State Board of Health*

THE BULLETIN has a recent release of the First Annual Report of the Medical Meeting of the National Foundation of Infantile Paralysis on the activities of committees and grantees of that organization for the past year. The Foundation is concerned with promotion and furtherance of research on all phases of infantile paralysis and subsidizes research through grants. In addition, a program of professional and lay education has been promoted. While the BULLETIN would like to publish the full report, space does not permit, and we resort to excerpts of the more vital material.

### Research on the Virus

The Committee on Virus research reported studies were being conducted to determine the nature of the poliomyelitis virus. "The University of Wisconsin has concentrated the virus-infected material obtained from spinal cords of monkeys so that infection may be produced in dilution of one part to ten million. Stanford University, in a study

of purified and concentrated virus, concluded that the virus is protein in nature, or contains protein material. Yale University School of Medicine reported finding poliomyelitis virus in stools of patients, contacts, and in sewage collected from epidemic areas, and the Michigan Department of Health laboratories reported the occurrence of healthy carriers in an institutional outbreak in Detroit."

"Reports of efforts to produce infection with poliomyelitis viruses in animals other than the monkey confirmed findings that the Lansing strain could be made to produce infection in various cotton rats and, by a special technique, several other old as well as newly isolated strains have been grown in cotton rats."

All reports on the distribution of the virus in the body showed that the virus could be routinely recovered from central nervous tissue of fatal human cases and from experimental animals and that excepting for tonsils, adenoids, and

lymph gland tissue, no other part of the body was shown to harbor the infection.

While attempts at producing immunity from poliomyelitis have failed, on the other hand, some leads in the field of chemotherapy have been reported and are in the process of investigation.

### After Effects

In reports of studies of the effect of the disease and methods of prevention of damage, "The University of Toronto, Johns Hopkins University School of Medicine concurring, concluded that the muscular fibrillation resulting from nerve destruction is not the primary cause of atrophy of paralyzed muscle."

Gross and microscopic pathological studies of paralyzed muscles carried on at the Crippled Children Hospital, Marlin, Texas, showed that occasionally muscles developed a band like form of degeneration, and that when mattress sutures were used to connect the muscle above and below these bands, good functional results were obtained."

### Surgical Treatment

Several studies have been completed and others are still being conducted that measure the end results of various forms of surgical and conservative treatment. "The Childrens Hospital School in Baltimore concluded that if the maximum benefits of physiotherapy are to be secured patients must be under such care within six months of the onset, and that 97 percent of all weakened or paralyzed muscles regain the maximum possible strength within 18 months after the onset of treatment. The Texas Scottish Rite Hospital confirmed these observations and, in addition, concluded that rest with physiotherapy in the hospital had no advantage over similar treatments given in the home. Hospital care over long periods was of decided advantage only when underwater treatments were used."

## Epidemiology

Reports were rendered on the activities of the Foundation in epidemic areas. It is not the purpose of the Foundation to provide medical care to patients, yet it has rendered certain assistance to communities and hospitals by supplying splints, Bradford frames, and by making respirators available. Studies of epidemics were made in a few areas upon the request of and with the consent of health officers. These studies have progressed only far enough to point the way for more elaborate and exhaustive work of the future.

## Education

To inform both the professional workers and the public of certain aspects of the disease an educational program has been conducted. Booklets have been prepared and widely distributed dealing with the use of the respirator, the nursing care of poliomyelitis patients, and other phases of the problem.

Scientific investigation of the possible relationships existing between the state of nutrition and the development of infantile paralysis has been undertaken. It was not deemed expedient to limit these studies to poliomyelitis, but rather to include the entire field of infectious diseases.

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## "DOWN WITH HOOKWORMS"

*(Continued from page 11)*

gnawing at our intestines, producing cramps and colic, and sucking our life's blood out of us. And just as we put on a show for the grown-ups in the school rooms, the tennis courts, and the ball field, I believe that we should take the leadership in getting rid of the things which will keep us from being real men and women. So up with the Flag of Sanitation and down with worms, and especially "hookworms."

## SCHOLARSHIP IN HEALTH EDUCATION AT M. I. T.

Two full tuition scholarships of \$600 each are available in the field of health education at Massachusetts Institute of Technology (Department of Biology and Public Health) for 1941-42. Each covers the tuition fee for the full scholastic year, beginning in September, 1941, and closing in June, 1942. They are available for women only.

These scholarships will be awarded to candidates recommended by the National Tuberculosis Association. It is desirable that applicants should have basic training in chemistry, biology, psychology and education. The awards will be based upon the nature and quality of the previous academic work of the applicant, personality qualifications for professional work in the field of public health, and need of scholarship aid. Although professional experience is not required, preference will be given to candidates possessing the Bachelor's or Master's degree, and having had successful teaching or administrative experience. Reasonable assurance must be given by the applicant that she is prepared to accept the scholarship promptly if it is offered to her, and that she is definitely interested in entering or continuing a professional career in Health Education.

Through an affiliation between Massachusetts Institute of Technology and the undergraduate School of Education of Boston University and graduate School of Education of Harvard University those who wish to take courses in education while studying at the Institute may do so without additional fee at either Boston University or Harvard.

## MEANING OF TERMS "COLD CLOODED" AND "WARM BLOODED"

Explaining the meaning of the terms "cold blooded" and "warm blooded" in their relation to cold endurance, *Hygeia, The Health Magazine* says: "These are popular terms but they do not mean what they say. Warm-blooded animals are those whose body temperature is maintained at the same level regardless of outside temperatures. A better name for them would be 'constant-temperature animals.'

"Cold-blooded animals are those whose temperature varies with the environment. They are able to sustain life in cold weather by adapting themselves to the low temperature through a variation of body temperature to correspond with the outside temperature. In cold weather they will be sluggish and in some instances appear to be dead.

"Among human beings differences in ability to withstand cold are determined in part by the amount of fat immediately under the skin. Because they are better equipped in this respect, women withstand cold better than men. In general, fat individuals feel the cold less than lean persons. Another factor is the rate at which body chemistry proceeds. This is governed largely by the thyroid gland."

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The scholarships will be awarded in June, 1941, and applications should be received not later than April 30. All those who are interested are invited to write to the Child Health Education Service of the National Tuberculosis Association, 1790 Broadway, at 58th Street, New York, N. Y., for application blanks.

# Tuberculosis Essay Prizes Again Offered

By FRANK W. WEBSTER, *Managing Director*  
North Carolina Tuberculosis Association

**F**EATUREING a \$100 scholarship and a \$50 cash award, the North Carolina Tuberculosis Association announces that it is again sponsoring the Negro essay contest for colleges and high schools being conducted by the National Tuberculosis Association. This is an annual contest open to any bona fide student now enrolled in a Negro college or high school in North Carolina.

"Why, What, and Where" and "The Opportunity of the High School in the Control of Tuberculosis" are the two possible titles that the high school student may use in his essay. The college student has a slightly broader choice with the chance to use "How Can I in My Future Profession Help to Control Tuberculosis?" "College Essay Contest on Tuberculosis," or "National Student Health Association" as subjects for his work.

Awards this year include prizes for both high school and college groups

given by the local tuberculosis associations or committees to local winners, by the North Carolina Tuberculosis Association to state winners, and by the National Tuberculosis Association to the national winners. Highlights of the national prizes include a \$100 scholarship and a gold medal to the winner in the high school contest and \$50 cash and a gold medal to the winner in the college contest. State winners are to receive \$15 in the college contest and \$10 in the high school contest. Both the state and national associations are giving many other awards to runners-up. The contest closes April 20.

Last year Miss Evelyn Love of Bennett College in Greensboro won first prize, both state and nationally, in the college contest. Over 500 high school students and some 75 college students in North Carolina took part in the 1940 contest and it is expected that even a larger group will participate this year.

## SERUMS AND VACCINES AVAILABLE FROM STATE LABORATORY OF HYGIENE

The State Laboratory of Hygiene prepares and distributes the following biologics without cost to physicians licensed to practice medicine in North Carolina:

Typhoid Vaccine (Monovalent)

Triple Typhoid Vaccine (Typhoid,  
Paratyphoid A and B)

Smallpox Vaccine

Schick Test Material

Schick Test Control

The State Laboratory of Hygiene prepares and distributes at approximate cost the following:

Alum Precipitated Diphtheria  
Toxoid

Diphtheria Toxoid—Ramon

Diphtheria Antitoxin

Tetanus Antitoxin

Alum Precipitated Tetanus Toxoid

Improved Pertussis Vaccine

Antirabic treatment for humans only

The Laboratory buys from other manufacturers and distributes at the price paid the following:

Scarlet Fever Antitoxin

Anti-meningococcus Serum

Diagnostic Blanching Test for

Scarlet Fever

Dick Test (Scarlet Fever Susceptibility)

The Laboratory is now distributing at approximate cost a variety of standard laboratory media, reagents, etc.



# The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

**This Bulletin will be sent free to any citizen of the State upon request**

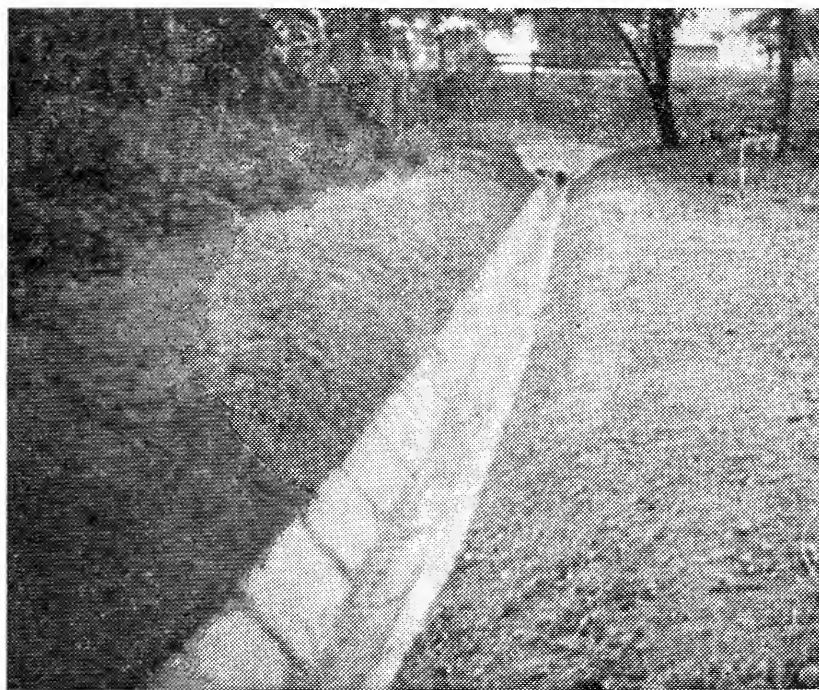
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APRIL, 1941

No. 4



## New Type of Drainage Ditch

In the spring of the year attention should be given to the opening of drainage ditches, if one expects to control malaria and pest mosquitoes which breed when the warmer weather arrives.

The above picture shows a new type of drainage ditch which has many advantages over the old open ditch with earth walls and bottom. This ditch is lined with slabs of concrete, which assures a uniform drainage and one that is more or less permanent, one that will not wash and need constant maintenance care to provide good drainage. This type of ditch also prevents the formation of pools and the growth of weeds and grasses, which make for ideal breeding places for mosquitoes.

Also, through coöperation with the Rockefeller Foundation, the North Carolina State Board of Health has at its disposal a machine for making ditch-lining material. This equipment will provide the means of securing this type of ditch for many communities throughout the State.

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
Diabetes	Malaria	Typhoid Fever
Diphtheria	Measles	Venereal Diseases
Don't Spit Placards	Pellagra	Vitamins
Eyes	Residential Sewage	Typhoid Placards
Flies	Disposal Plants	Water Supplies
Fly Placards	Sanitary Privies	Whooping Cough

### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 Months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months, 2 to 3 years; 3 to 6 years.
Breast Feeding	Instructions for North Carolina Midwives.
Infant Care. The Prevention of Infantile Diarrhea	
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# THE Health Bulletin

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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D., *Editor*

## Notes and Comment

By THE EDITOR

**Public Welfare News** WE do not know of any better way to begin this column this month than to call attention to the new set-up of the *Public Welfare News*, issued by the North Carolina State Board of Charities and Public Welfare once a month and distributed free of charge to interested citizens. The names of Mrs. W. T. Bost, Commissioner, and Mr. A. Laurence Aydtlett, Editor, are listed at the masthead. Volume three, number four of this publication appears in print for the first time. Mimeographed copies have been regularly sent out for a little more than two years but the January issue comes out for the first time in print. This publication should prove to be of much interest and help to all of the various welfare agencies in the State. An interesting feature of the publication is a policy of the editor in inviting articles from various members of county and city welfare departments for publication. THE HEALTH BULLETIN being one of the oldest house organs in the field, takes pleasure in extending a warm welcome to *Public Welfare News* as one of the youngest in the field. May it live long and prosper.

**Drs. McCreary and McPhaul** The editor of THE HEALTH BULLETIN was grieved to learn of the recent death in Jacksonville, Florida, of Dr. A. B. McCreary who has been State Health Officer of Florida for nearly two years. Dr. McCreary was a native of Tennessee and came to North Carolina as a young physician about 1925. He was first connected with the staff of the Central State Hospital for the Insane in Raleigh, but soon thereafter became whole-time health officer of Richmond County, the first full-time officer of that county. He remained there for six years, making a fine record as county health officer and leaving numbers of friends in that county, to join the staff of the State Board of Health as State Epidemiologist. He remained here only a few months before returning to his native State of Tennessee to become epidemiologist for the City of Memphis. After about two years there he took an important place in the State of Virginia as a district health officer. In the meantime, Dr. W. A. McPhaul had become State Health Officer of Florida and induced Dr. McCreary to accept a place on his staff about five years ago. It is a rather interesting coincidence that Dr. McPhaul, although a native of Alabama, had come to North Carolina with his family as a small boy,

reared in Robeson County where he became the second whole-time health officer of that county after practicing for many years as a practicing physician in Robeson County. Dr. McPhaul left the Robeson County health work to become city health officer of Montgomery, Alabama, but on the resignation of Dr. Alec J. Warren, city health officer of Charlotte, to go with the International Health Board, Dr. McPhaul accepted the place of health officer of Charlotte where he remained for several years, making a good record. Dr. McPhaul left the Charlotte work for Pensacola, Florida, where he was district health officer and later was appointed by the Governor of Florida as State Health Officer. Upon his death nearly two years ago, Dr. McCreary succeeded him.

It is rather unusual that the State of Florida should have the services of two successive state health officers who had already made a reputation in health work in North Carolina. Dr. McCreary was an able writer and a man of many parts. A few days after his death we had the privilege of calling on an old friend, Dr. Ben K. Hayes, of Oxford, whose health is not so good at this time, but whose keen mind and sympathetic interest in public health work and the doings of the medical profession remains as brilliant as ever. Dr. Hayes at one time a few years ago was located at Memphis in his work with the United States Government Medical Service and he and Dr. McCreary became fast friends. Their common interest was chess. Both of them were good players, both were a little homesick for this section of North Carolina and therefore they had a common interest which enabled them to while away many happy hours together. The editor of THE HEALTH BULLETIN extends to the family of Dr. McCreary, and his confreres in the work in Florida warm sympathy in his passing.

**April: A Pellagra Month** In past years the month of April has witnessed probably greater outbreaks of pellagra than any other month. It does not mean that the disease appears only in this month, but it means that the symptoms are more likely to appear sufficiently well defined for a diagnosis to be made in many cases of latent pellagra or recurrent attacks than in any other month. We are calling attention here to this fact in order that health departments all over the State may be on careful guard for the first indication of this disease among susceptible people. Of course, physicians have long since learned to watch for the first appearance of symptoms resembling the disease. Our advice to anyone having any suspicion of the presence of pellagra would be to immediately consult a physician and then adopt a careful dietary regimen under his direction before a serious phase of the disease should be reached. With food plentiful, a wide choice available to most people and with the abundance of information passed along by physicians and health departments concerning the prevention of this disease, the decline in the deaths for the last few years should continue. It is one of the diseases that should be entirely eliminated in due time. In this climate and latitude, there is no month in the year in which more careful attention should be paid to the quality and quantity of food prepared and consumed than in this month. The old-time plantation owners and others used to worry a great deal about a proper source of food supply in April. As the stored foods of winter became scarce and before summer foods became plentiful, it was a problem in large families to provide the essential foods necessary for the maintenance of good health. Such should not be the case today.

## A Plea for Professional Identity

In these days when a cobbler blows into town with a new device to put on a shoe and is hailed as "Dr." So-and-So, on up through the scale, which includes every conceivable kind of business, professional and quack, activity, it is becoming more and more necessary that the word "Doctor" be eliminated entirely from common use. If a man is advertising himself as a chiropractor, for instance, he should be known only as John Smith, chiropractor. If he is going to spend his life working with footwear, he should probably be known as John Smith, S.L., meaning an authority on shoe leather. If he is a minister with the degree of D.D., it should be so stated on his stationery and all public reference, including the telephone books, especially. If he is a practitioner of medicine he should retain the good old title of physician. If such a procedure were made common practice, backed up by legal requirements, much of the confusion in the public mind as to the qualifications and ability of all the multitude of professional men, quacks and otherwise, all sailing under the title of "doctor" would be eliminated. The ophthalmologist who is always a physician and who spends months and years in the study of his profession in postgraduate work qualifying himself to be a specialist in eye diseases and the care of the eyes, including the proper prescription of glasses, would be known as such, he would use the title of physician. The optometrist who is also engaged in providing eye glasses for people with refractive errors, etc., would be known by his title of optometrist.

We hope that the time will soon come when some man like the professor up at Columbia University who is said to have revolutionized the whole school teaching business in the United States of America from the biggest universi-

ties on down to the smallest neighborhood school, will get around to give attention to this matter and see that it is put into effect throughout the country. We repeat again, it is the only way in the world that the people themselves can be trained to recognize the difference between professional worth and otherwise.

\* \* \* \*

## Cemeteries and Automobile Graveyards

Driving along the new road the other day between Raleigh and Durham, just before we reached Durham we realized for the first time how appropriate the selection of the cemetery there on one side of the road just in the edge of the city and an automobile graveyard, or what some newspapermen irreverently call junkyards, right across the road. We were immensely impressed because of the fact that the automobile graveyard is one of the neatest and cleanest we ever looked upon. For nearly a quarter of a mile just off the left of the highway going west into Durham there was displayed row on row of cars in every conceivable stage of wreck, some fine, new cars with the top smashed in and the radiators all bent up and one wheel all gone, other cars of the 1920 dispensation all bent up and twisted, but lined right up there all systematically presented so the purchaser could come and get what he wanted. To us it meant that it was a living illustration of the dangers of the highways at present and also of the fact that while the car ended up for the final place as an automobile over on the left along with the goats, the driver of the car, drunk or sober, reckless or otherwise, found his terminus just across the road beneath the grass and behind a nice granite headstone.

This writer believes that the junkyards for automobiles should afford a valuable lesson when kept neatly and

properly conducted as this man conducts his in the edge of Durham. It is a strong illustration of the dangers of the road and certainly should lay a warning hand on the wheel and the throttle of every automobile passing when driven by a reckless or speeding driver. We look on it exactly as Walter Winchell quoted in his column some-time ago. The old-time preacher who, on getting discouraged at his revival meeting, finally said in his prayer, "O Lord, take off the lid of hell and let these sinners look in." If a look across that road on both sides entering the City of Durham does not have any effect on a speeding automobilist, if he is sober enough to see either, nothing would deter him.

\* \* \* \*

### Chronic Alcoholism

We have no intention at this time to get into the controversy about ABC stores or liquor referendum. We leave those questions for people more competent to handle. We are, however, as physicians and health officers, gravely concerned with the increase in chronic alcoholism in the United States, including North Carolina. One of the distinguished physicians connected with Bellevue Hospital and New York University, in New York, recently reported to the Research Council on the Problems of Alcohol that there were between fifty and seventy thousand new cases of chronic alcoholism in the United States every year. This Bellevue doctor reported the knowledge of 56,000 cases developing in 1937, with increase evident every year as indicated.

On the very day we saw the foregoing item, a woman came to our office in quest of a job. She is an A.B. graduate of an important Southern woman's college; she is the mother of three children. Ten years ago she was happily married to one of the foremost young business men in one of the nice cities of North Carolina. This young man

was the son of a good family. They were wealthy. Neither husband or wife had ever known any want. They moved in the best social circles. He had a big income from his business, but it is the same old story now. He found the fast life in his circle soon lead him out beyond his depth and a few weeks before she reached our office in quest of a job, her husband had been declared an incurable alcoholic. Home gone, property gone, money gone, friends gone, the husband committed to an institution for the balance of his time, this mother who ten years ago never dreamed of such a reverse in fortune must get out, brush up on her education, get her teaching certificate and go back to teaching school or some job with a salary attached that will afford food and shelter for herself and her children.

Again on that same day, Dr. W. R. Parker, health officer of Northampton County, and an examining physician for the draftees for the army in his county, came into the office. He was in town for the purpose of attending a regional meeting for medical examiners in an effort to reduce the number of men sent back from various army training centers such as Fort Bragg on account of physical disability. Dr. Parker reported a good record and satisfactory examinations made. He said that he had found one of the principal causes of concern to the draft examiners was the unusually large number of young men who had excessively high blood pressure. He said that he recently questioned some of these young men, especially when examined on Mondays and Tuesdays as to their drinking habits, invariably he found that they reported that they took from a quart to a half gallon of whiskey home with them and they drank it between Saturday and Monday. In other words, most of them were in the habit of spending more or less a drunken

week-end. What such a procedure followed with anything like common custom throughout the State or the South or the whole country will mean to the health of the men of the nation in the future is a question for grave concern. The last generation of doctors were invariably of the opinion that the drinking man who got on an occasional spree and stayed under the influence of liquor for several days at a time and then sobered up and went straight for three months to six months without any more drunkenness was a much better risk than the man who had chronic habits of daily drinking or frequent periodic drinking, even though the latter did not lead to what might be diagnosed as drunkenness. Invariably, the latter class of men made bad risks in many ways. A nation whose adult population lacks in qualities of stamina and good health is a nation that cannot survive.

\* \* \* \*

### Medical Schools and Medical Care

The Alabama State Health Department sometime ago published the results of a survey by the Federation of State Medical Boards. The Alabama Department reported that in 1940 there were 77 medical schools compared to 160 in 1905. They also reported that in 1940 the medical student body of 21-

271 was matched against a total of 26,147 in 1905. As the editor of THE HEALTH BULLETIN graduated from medical school and went to practicing medicine in 1905, these figures hold more than casual interest. We do not have the census figures immediately at hand but speaking from memory, there were about eighty million people in the United States reported in the census of 1900. Forty years later the census of 1940 listed something more than one hundred and thirty million people. Is it possible that the present agitation and controversy over the question of adequate medical care for the people of this country is in any way related to such figures as the foregoing? In other words, there was about twenty percent decrease in the number of medical students in 1940 compared with 1905 and a fifty percent decrease in medical schools, a restriction in number of students accepted in all of them, whereas in 1905 there was no restriction hardly anywhere in any medical school. All were welcomed who had the price. Then compare the figure of eighty million people to be served by the larger number to the hundred and thirty million people to be served by a reduced number of physicians. It may be that quality could cover the discrepancy but that is hardly a debatable question for a man who has a pain and cannot get a doctor.

## Midwife Work in Northampton County— Past and Present

By JOINNIE SUE DELOATCH, *Midwife*

IN the highly interesting work now well on into its third year in the special demonstration in Northampton County every phase of maternal and child health service work is emphasized—under the wise direction of Dr. W. R. Parker, health officer, and Miss Idell Buchan, supervisor of nurses. No

item which might help along the work is overlooked. A few weeks ago they asked one of the midwives to write down in her own words something of her own experience. This she did, and Dr. Parker has sent her story to us. We are publishing it without change in any way. It is interestingly told.

Dr. Parker says that the author is one of the county's most reliable and conscientious midwives. He says she is a widow with five children, and that she gets very little pay for her services and finds it very hard "to get along." The story follows:

The story of then was near to us as 1933 when midwives only knew just a small amount about the delivery of a baby, when they only carried a small amount of equipment in a little small box about six inches long and four inches wide; just large enough to hold a pair of scissors and back to 1912 they only carried a pair of scissors in their apron pocket and a ball of cotton twine. And when they came to the patient's home they did not wash their hands, they just sat down and asked how long you been hurting and if your pains wasn't very hard they would get the frying pan and get some black pepper or tansey or ginger and make a quart of hot tea and make you drink it and if your pains got bad they would turn a chair down and put a pillow on the back of it and get some guano bags and lay them on the floor and you lay down on them and then she would get her a chair and sit down by your knee and ask for a saucer of lard. Then she would get some on her two fingers and grease your birth canal and see how far has the baby come then get a rag and wipe her fingers then get her snuff box and brush.

When the baby is nearly born she would get her ball of twine out of her apron pocket and twist three strands together and hang it on the back of the chair and when the baby gets there she cut the cord and lay it up in the corner on the floor wrapped in an old dirty dress that she got out of the closet she didn't want anything clean for it would get messed up. Then she would get some of that lard that was in that saucer and put in the baby's mouth for him to swallow so his intestines

would get slick. Then she would help the mother to her feet and hold the bucket under her to catch the after-birth and if it would not come she would get some egg shell and burn them and pour boiling water on them and sit you over them. Then she would take your gown and wipe your private parts and fold an old ragged quilt and put you in the bed and tell you not to undress in four days and not wash anything but your hands and face and not wash your baby in six months and tell you to eat all you want of meat and bread and certain part of the chicken, but no fish, no beef, no wild animals, no fruit such as apples, oranges, no ice cream or lemonade, not but about three swallows of water at the time about every three or four hours. Get up on the third day. Some of them did care for the baby—rub his tongue with his wet diaper to help him from having the thrash and if he cried a lot like it was sick they would tell you to scrape some soot and grease from the frying pan and make a tea and put some sugar in it and give it to drink. This is true, I myself is one who nearly all of this was worked on. And this is not all, when the midwife layed my baby on the floor the cat grabbed his foot with her claws and the baby screamed then she taken the baby up.

But the story of today is far beyond that of 1912. I, myself, is a midwife of 1940. Having to be treated this old nasty way is the reason I am a midwife, but I do not do those things. I am doing better work every year by the help of our health doctor known as Dr. W. R. Parker, one of Northampton's best, and six good county nurses. Mothers of today do not have to suffer all those old habits a few years back such as dirt darber nest tea and chimney dirt tea for after pains and putting the axe under your bed with the blade

turned up and a razor under your pillow to cut your after pains into. And take the afterbirth in your hands and put a hand full of salt and "rool" it from one hand to another to keep back pains then put it in the fire and burn and not carry the ashes out in nine days, and when you did carry them out bury them to keep the chickens from scratching in them "do you would go crazy." Again they would tell you about two months before the baby came wash your breast nipples in your urine to keep them from getting sore. Say don't carry your hands and arms above your head do the cord will tie around baby's neck and tell the patient to get some good whiskey for her to drink while she is lying in—a quart for one baby and if twins came unexpected the husband would go and get another quart and then the pitiful little baby had to lie with the mother in all that odor, could not use water nor change her clothes in four days and the little baby when you take him out of the bed it had a high odor. Didn't wash baby's head but two times in winter, afraid it would have a cold and some of those babies is grown now and is afraid to use water freely. After baby was born the midwife did not look for a tare. There is many a woman today suffering for some midwife carelessness. Just a word for those old midwives, they was doing as best they thought. They had not any delivery training at all. Some of them did not have any education, could not read about germs, didn't go anywhere to hear about them so they thought delivering a baby was nasty work so everything mostly they used around it was nasty. They did not want baby to be received in anything white and clean; therefore, they would take mother's old dirty dress that she been working in all day and receive baby and lay him in the corner until they put mother in bed. Then baby would get a good soapy bath, if there

was not toilet soap, used Octagon, put powder all around his neck and face and when the cord came off, put powdered rotten wood on it to heal it up or nutmeg, one. So you see why Northampton mothers and baby death rates was so high. Well, well, what has lessened the death rates in Northampton County? It is our good health department carried on by Dr. W. R. Parker and his group of county nurses. Well, what is they doing to prevent deaths? Well, they is teaching and training better midwives and the nurses and midwives is teaching our patients and telling them they cannot live under that old nasty way. Some say our mother lived and didn't die. She didn't die, but you don't know how near death she was. She was subject to it in the way she was treated and some of those mothers did die, and it was said they eat something that killed her. But I can say one thing before I close, delivering a baby now with a midwife is no more alike it used to be than ink is like milk.



### Hookworm Victims

The four children pictured above and their father, a Wayne County farmer, were all found to be suffering from hookworm infection. The examination was made last fall as a result of the work of the School Coordinating Unit under Dr. Wilkins. They were all given treatment. Within three months after taking the treatment the father reported a thirty-pound gain in weight.

It is necessary for physicians and health departments to continue to be on the alert to detect hookworm infection, as there are a considerable number of people who have the infection.

# Medical Problems Involved in Better Care of Babies

By A. W. MAKEPEACE, M.D.

*Consultant in Obstetrics, State Board of Health*

**B**ETTER health for babies in a predominantly rural state such as North Carolina is dependent upon the solution of a mixture of at least three distinct problems, medical, economic, and sociological in character. Although we cannot discuss the subject from this broad aspect, it must be kept in mind that no one part of the problem can be neglected without retarding or nullifying efforts exerted in behalf of some other part.

Confining our remarks to the medical side of the problem, the health of babies depends, from an obstetrical point of view, first of all, upon the health and welfare of the mother. The patient's best guarantee of health, during and after pregnancy, can be summed up in a simple phrase: early and frequent consultation with her physician. There should be available to every woman competent medical advice upon all problems concerning reproduction. Whether this advice be supplied by the private physician, some member of a hospital clinic personnel, or an obstetrician associated with a public health center does not matter. The important point is that it must be available. This advice should, in general, be sought before marriage and certainly before beginning to raise a family. Good reasons for this policy are not difficult to enumerate. For example: heart disease, tuberculosis, diabetes, syphilis, all complicate pregnancy and may, until the medical problem has been solved, be an absolute interdiction to conception. The health of a prospective husband or father should not be neglected in respect to advice before or after marriage. Syphilis in the infectious stage in the male partner of a marriage must

be controlled to protect the wife and future children. Certain mental and physical defects in either partner of a marriage known to be of an hereditary character may make bearing of children undesirable. These facts and particularly the explanation of them should be presented in detail to the inquiring couple.

After conception has occurred, proper care during pregnancy and at the time of delivery will result in a living, healthy mother able to care properly for her infant in the future. This happy ending will not, however, be attained without due attention and foresight. During pregnancy the mother is exposed to many dangers. The two most important arises from hemorrhage and the late toxemia of pregnancy. In the South the problem of the toxemias of pregnancy is of paramount importance. One thousand five hundred and eighty-seven maternal deaths in North Carolina occurring during pregnancy and covering a period from 1932 to 1936 have been analyzed. Thirty-six percent—more than one third of all the deaths — were listed under toxemia. The importance of this complication of pregnancy is again emphasized when one realizes that in the group of Southern states bounded on the west and north by Texas, Arkansas, Tennessee, and Virginia—a group of eleven (11) states—the percentage of maternal deaths from eclampsia and other toxemias of pregnancy is from 50 percent to 150 percent higher than that found in the rest of the United States. The explanation of this astonishing and challenging condition is not definitely known. However, without any doubt the greatest single responsible factor

is the lack of antenatal care. The drop in the incidence of toxemia in counties where particular efforts are being made by the Maternal and Child Health Division of the State Board of Health to get antenatal care to women begins to demonstrate the tremendous value of this care in preventing toxemia.

The health of the newborn child and of other children in the family will unavoidably suffer if the mother's life is lost or her physical welfare so impaired as to leave her a semi- or complete invalid. Any such catastrophe should be anticipated and avoided by adequate competent medical advice and care. Too frequently this advice and care is unavailable, especially in the sparsely settled rural areas of North Carolina. The pregnant woman often receives no antenatal care whatsoever and is delivered by a midwife who had little or no training in her profession. Slowly, under the sponsorship of the Board of Health by means of its maternal and infancy clinics, this glaring defect is being rectified. In sixty-two (62) counties there are a total of 190 clinics, in which some 200 practicing physicians are aiding in the antenatal examination of women. This is an excellent start. At the moment midwives are an essential part of the plan for improved care to be offered women of this State at the time of delivery. They are being placed under more strict supervision than ever before and are receiving instruction in their duties. Intelligent, enthusiastic young women interested in midwifery are being encouraged to enter the field to replace the old and incompetent. Their training while admittedly leaving much to be desired, is so superior to what obtained a few years ago that the progress made is something of which the State can rightly be proud.

Following the successful termination of pregnancy there arises another question, the proper solution of which vi-

tally concerns the welfare of the child. How soon should another child—if there is to be another—be added to the family? The physiological changes and the natural stresses and strains of pregnancy are such that a baby a year is more than the mother should attempt. Child spacing at approximately two-year intervals seems desirable to most authorities. Preventive advice—routinely offered because through ignorance it frequently is not asked for—is the solution here. There would seem to be no necessity for dwelling long upon what should be obvious to all, but most certainly an additional child must be avoided until any abnormality brought to the fore by the pregnancy has been corrected. The physician's advice in this situation is very necessary.

Unavoidably we must now bring into our medical discussion the economic aspect of the family. The number of children in the family should bear some ratio to the family income. What that ratio should be does not directly concern us now. However, an unlimited number of children in a family with a limited small income inevitably results in insufficient food and care for all and a general lowering of the whole family's plane of living. The solution to this problem is again preventive advice just as it was in the presence of maternal disease. This aspect of the problem is of equal importance—although almost universally ignored—to a consideration of child spacing or of maternal illness.

In the School of Public Health of the University of North Carolina there has been established a chair of obstetrics for the purpose of teaching obstetrics as a part of a public health program. The occupant of the chair will not only present to the students in the Public Health School a theoretical view of the part obstetrics should occupy in a public health program, but he will

also work in the closest harmony and coöperation with the Division of Maternal and Child Health of the State Board of Health. That such a chair and program—the only one of its kind in this country—has been possible is due to the untiring efforts, the wisdom, and the foresight of three men, first and foremost Dr. Carl V. Reynolds, your present State Health Officer, his assistant and associate, Dr. G. M. Cooper, Director of the Maternal and Child Health Service, and Dr. Milton J. Rosenau, the Dean of the School of Public Health at the University of North Carolina. The tremendous value of their efforts and imagination in plan-

ning and carrying out a program for the benefit and safety during pregnancy of the women in this State must not be forgotten.

In conclusion, therefore, let us emphasize that the health and welfare of babies in North Carolina depends in great part upon the advice of a physician before, during, and after pregnancy. This advice in one way or another must be made available to every woman and every family in the State. In this way not only will the individual benefit, but the general health, welfare, and happiness of the whole community will be improved.

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## Teaching Mouth Health

Miss Carolyn Mercer of the Division of Oral Hygiene has written an interesting book for the use of teachers under the above title. One of the important features of Miss Mercer's handbook is its complete list of all available literature on the subject. We take pleasure in presenting the following review of Miss Mercer's handbook which appeared recently in the Bulletin of the North Carolina Dental Society:

*"Teaching Mouth Health* is the title of a handbook for teachers by Carolyn Morton Mercer, Educational Consultant of the Division of Oral Hygiene of the North Carolina State Board of Health. Miss Mercer is well qualified to write this book. She was graduated from Meredith College with an A.B. degree and has received a Master of Arts degree in Health Education from the University of North Carolina. Miss Mercer was selected for the position of Educational Consultant for the Division of Oral Hygiene on account of her successful teaching in the elementary schools of the State for a number of years.

"The book presents material which will aid teachers in the elementary schools of North Carolina in teaching mouth health and is to be used in the mouth health education program conducted in the schools of the State by the Division of Oral Hygiene of the North Carolina State Board of Health.

"The handbook contains factual material compiled to give teachers a background of knowledge concerning the mouth and teeth, an analysis of the outstanding needs of children in regard to the health of the mouth, a formulation of the aims or goals in terms of desired outcomes of mouth health teaching, suggested procedures and activities by which the goals may be attained, and a graded bibliography of materials which may be used in carrying out the suggested procedures.

"The teachers are now doing a splendid job of teaching mouth health in the schools, and the book is being published to augment this work. The purpose in writing this is to let the dentists know something of what is going on. After all, dentistry and the

*(Continued on Page 14)*

## SEX EDUCATION IN THE HIGH SCHOOL

Sex has been a word of violent connotations, of furtive and improper connotations, to many people, for almost all of the years of their lives. To others love, beauty, tenderness associated with sex are entirely private matters not to be discussed. Sensitivity, fineness, even a sense of humor, are essentials in sex teaching if one would avoid the pitfalls of shock or sentimentality of the "birds and flowers" variety. How then interpret normal family life to young people through teachers conditioned and often embarrassed by their own attitudes?

The evaluation of sex education in the schools is a difficult thing, since reports are again colored by the emotions of principals and superintendents. No report of a general survey has been published since 1927, in which year 45 percent of the schools reported some such educational effort. Much of this teaching is sketchy, often centered on shiboleths and fears, with hasty references to biology. And since almost no child waits for high school instruction to learn elementary sex biology, embarrassment and skepticism must greet lectures self-consciously superimposed on the high school curriculum.

True education begins with the presentation of factual material and develops the ability to make valid decisions based on those facts. Education for family life, which is being given a larger and more practical place in the curriculum, draws together the student's information in many fields—in economics, in nutrition, in the physiology of sex—and with that material

helps the student to develop the ability to make the most valid decisions for his own social development.

The biology class, providing factual information on the physiology of reproduction, a scientific vocabulary, and a frame of reference, is of first importance in giving the student a sound basis for a study of family life.

The barriers to program development, for the most part, are not legal, but psychological. The Office of Education reports only one state law bearing on the subject, and that merely allows children to be excused from such courses at the parent's request. The attitudes of the public at large, of the students, and of the parents often seem inimicable; but the work which has gone forward has shown that these attitudes can be successfully changed.

—From *Clearing House Notes*.



**East Arcadia Community Center for  
Colored People**

Sometime ago Dr. R. S. Cromartie, Bladen County Health Officer, sent us this photograph of one of the group meetings in the maternal and child health service work in that county. Dr. Cromartie writes that this is exclusively a Negro community. He said the Negroes built the two-room house, as shown, themselves. They equipped it completely with seats, tables, wiring, screens, etc.

As a suitable place to hold these centers or clinics is a big problem everywhere, the enterprise of these colored people in Bladen County should afford an example worthy to be followed everywhere.

## VENTILATING SYSTEMS MAY BE LARGE FACTOR IN SPREAD OF DISEASE

The possible role of ventilating systems in the spread of disease is one that should be further studied, *The Journal of the American Medical Association* for February 15 says in commenting on the findings made in a recent study of such a nature.

"In present day air conditioning systems 90 percent of the cooled air is often recirculated," *The Journal* says. "The redistribution of air from an infected space to noninfected areas might conceivably become a factor in the spread of disease. In a recent study of the role of ventilating systems in the transmission of micro-organisms (any minute animal or plant) bacteria (*B. subtilis* spores), which can be readily distinguished from other organisms usually found in air, were introduced in two different ventilating systems and the distribution of the spores was studied.

"The first ventilating system, which was provided with a paper-tissue filter, was located in a small auditorium. In one instance the spores were introduced beyond the filter and were thus not filtered, and in another experiment the spores were introduced in front of the filter and the air carrying them was filtered before being circulated. Fifteen minutes after the spores were introduced beyond the filter, analyses indicated the presence of 21.9 organisms to ten cubic feet of the air in the auditorium. One hour after the spraying of the spores no organisms could be found in the air. Fifteen minutes after spraying spores in front of the filters only 3.7 organisms were present in ten cubic feet of the air and after an hour these, too, had disappeared.

"In another series of experiments spores were introduced at different points in the ventilating system of a

large building. Analyses of the air in two rooms of the building showed a maximum concentration of organisms during the spraying, which in these experiments lasted for a twenty-minute period or during a short period (one half hour) thereafter. The number of organisms then decreased rapidly and within a relatively short time the count returned to a normal level. This rapid decrease is attributable to the dilution factor, and to the action of the filter, as well as to the loss occasioned by surfaces such as the walls and floor.

"These experiments were made under the most favorable conditions for the transmission of bacteria in ventilating systems, the number of spores being far in excess of that which might be possibly expected to occur normally and the spraying being done at advantageous points, and they demonstrate that bacteria may be spread in this way, although the menace seems slight.

"The problem merits further study from the point of view of public health."

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## TEACHING MOUTH HEALTH

(Continued from Page 12)

dentists will profit by this activity. We are persuaded that the chief reason some of us in practice do not know as much as we should about our dental program in the schools, is that we have not taken the trouble to inform ourselves.

"While the handbook, *Teaching Mouth Health*, is primarily for the teacher, it is full of information for the dental profession. We suggest that you write to the Division of Oral Hygiene and get one of the handbooks which should be off the press by the time you read this. The books are free for the asking, but the supply is limited. So, do it now."

## SOME LEADING CAUSES OF DEATH IN STATE IN 1940 HEART DISEASE STILL LEADING

By WILLIAM H. RICHARDSON

**H**EART trouble was the leading cause of death in North Carolina in 1940, claiming approximately one person out of every six of the 32,194 for whom death certificates were filed with the State Board of Health, or a total of 5,451, with a rate of 153 per 100,000 population, compared with 1,780 in 1914, the first year of registration, when the rate was 74.4, less than one half of what it was for the year recently ended.

For many years tuberculosis was the number one cause of death in this State, but that now ranks eighth, while heart diseases continue to maintain a firm first, year after year.

Pneumonia deaths last year totaled 2,041, with a rate of 57.1, compared with 100.5 in 1914. As late as 1936 the rate was 93.7, by 1938 it had dropped to 77.7, and in 1939 it was 59.5.

"While the death rate from this dangerous disease is declining to a very gratifying degree, with the discovery of new methods of treatment, which have been amazingly successful, this does not minimize the importance of early diagnosis, for the earlier pneumonia is diagnosed the more successful its treatment and the more quickly it yields," said Dr. Carl V. Reynolds, State Health Officer, who added this warning: "Do not assume that any 'common cold' is harmless; call your doctor and let him make the determination, for a cold might easily result in pneumonia through neglect."

### Accidental Deaths Increasing

There was a noticeable increase in deaths from preventable accidents in 1940, when these totaled 1,535, compared with 1,481 the previous year. "These and deaths from preventable and controllable diseases add unnecessarily to our death rate," Dr. Reynolds pointed out, "and it would be unfair

to attribute them to unhealthful conditions, as each one represents a mistake or negligence somewhere. North Carolina's total death rate from all causes last year was 9.0," he continued. "Subtract the 1,535 deaths from preventable accidents from the grand total, and this gives us a death rate of only 8.6, to say nothing of the reduction that would be reflected if our people would avail themselves of all the means at their disposal for the control and elimination of preventable diseases.

"As to diphtheria, while deaths from this preventable disease are on the decline, the rate having fallen from 15.8 in 1914 to 3.3 in 1940, and while we have a compulsory immunization law with which the public ought to be familiar by this time, the responsibility, in the last analysis, is a moral and not a legal one and rests with parents.

### The Law of Love

"When all parents reach the point where they love their children well enough to have them immunized, deaths from diphtheria in North Carolina, which last year totaled 119, will become as rare as deaths from smallpox, of which there has not been one since 1932."

The number of deaths from pellagra, a disease attributable to nutritional deficiencies, was 169 in 1940, compared with 209 the previous year, which brought the rate within a single year down from 5.9 to 4.7. In 1914 it was 23.6; by 1936 it had dropped to 10.3, and as late as 1938 it was 7.3.

"The State Board of Health, in cooperation with other governmental and educational agencies, now is engaged in a very definite program designed to make a scientific study of the nutritional deficiencies of our people," Dr. Reynolds explained, with reference to

direct efforts now aimed at the control of pellagra and other dietary diseases, with a view to their ultimate elimination. "This work has progressed to a very gratifying degree," he added.

### Helping Mothers, Babies

The vital statistics report for 1940, prepared under the direction of Dr. R. T. Stimpson, shows there were 80,971 births in North Carolina, compared with 78,957 in 1939, the rate having risen from 22.3 to 22.7 for this period.

The infant mortality rate fell from 59.1 to 56.3, but the maternal death rate rose from 5.0 to 5.3. However, this problem is being vigorously attacked by the Board of Health's Division of Preventive Medicine, of which Dr. George M. Cooper, Assistant State Health Officer, is the director, through the operation of nearly 200 maternity and infancy clinics and the establishment of two professorships at the School of Public Health at the University of North Carolina and at Duke University. Dr. A. W. Makepeace, obstetrician, and Dr. Robert B. Lawson, pediatrician, already are helping to train workers.

### Tuberculosis Trend Downward

The death rate from tuberculosis in 1940 which was 49.9, as compared with 51.3 the previous year and 139.3 in 1914, continued its downward trend, while there was a decided decrease in the number of deaths from diarrhea and enteritis among children under two years old. In 1940 there were 500 of these infant deaths, compared with 666 in 1939, while the rate in a single year fell from 18.8 to 14.0. In 1914 it was 81.2, and as late as 1938 it was 29.2. The toll from this infantile disease is heaviest during the summer months.

"The declines noted above are encouraging to public health workers," Dr. Reynolds said. "They indicate that parents not only are availing themselves of information necessary to bring the prevalence of this disease down,

but are putting that information into practice."

The State Health Officer declared that with the advance strides made by preventive medicine there is no reason why there should not be success along all fronts in the war on controllable and preventable diseases. "And there will be as our people continue to become more health conscious and realize what golden opportunities are theirs," he concluded.

### IN MEMORY OF DR. T. W. M. LONG

By Robert F. Young, M.D.  
County Health Officer  
Weldon, N. C.

It was a beautiful winter night, clear and cold, when a neighbor physician and I started out to see a mutual friend who was also a physician and who had just "come home for a visit."

As we drove along the highway we talked of the many virtues of our friend, of the many kind deeds he had done, and of the many kind words he had spoken. He was never known to be too busy to render a service to a friend, or to his county and State. In the lines of the poet, "None knew him but to love him nor named him but to praise."

How distinctly I remember that always when one left his office or his presence he would say, "Good-bye and God bless you."

But we were there before we realized it—where he had come home to rest. There were many other friends coming and going, silently and reverently, their faces drawn with sorrow.

We were ushered into a room where our friend lay, so quiet and still. His countenance seemed "Sustained and soothed by an unfaltering trust" while he rested there as "One who lies down to peaceful dreams." We stood there in his presence for a moment in deep silence, and as we turned to leave I'm sure I heard him say, "Good-bye and God bless you."



# The Health Bulletin

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**| This Bulletin will be sent free to any citizen of the State upon request |**

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MAY, 1941

No. 5



J. STREET BREWER, JR.

The above is a picture of the infant son of Dr. and Mrs. J. Street Brewer of Roseboro. Photograph taken when the baby was three months old. He is not sitting alone, the photographer managed that appearance, but no trick could hide the baby's evidence of intellectual capacity.

Dr. Brewer is a member of the State Board of Medical Examiners and is widely known throughout the State as an able and conscientious physician. He has been offered two or three medical school professorships and other places of importance, but prefers the useful life of a country physician in the neighborhood where he was born and reared.

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
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Don't Spit Placards	Pellagra	Vitamins
Eyes	Residential Sewage	Typhoid Placards
Flies	Disposal Plants	Water Supplies
Fly Placards	Sanitary Privies	Whooping Cough

### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 Months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months, 2 to 3 years; 3 to 6 years.
Breast Feeding	Instructions for North Carolina Midwives.
Infant Care, The Prevention of Infantile Diarrhea	
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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D., *Editor*

## Notes and Comment

By THE EDITOR

### Babies

TO paraphrase Alice in Wonderland, the time has come around again to talk about the health of babies in North Carolina. For a long time the month of May has been our baby month when we come around to preparing THE HEALTH BULLETIN for May. There are several reasons for this consideration. One is that nearly every year a larger number of babies die under the age of one year in May than in any other month with sometimes one or two exceptions. It is the beginning of summer and there are still many thousands of babies in this State living in families in which the houses are not screened and the babies are not protected from flies and mosquitoes which are always bad when hot weather first comes in in May. Again, May being the last of the spring months leading into summer proper, many things are necessary to do in the beginning of May if the lives of a large number of babies are spared during the summer. Protection from flies and mosquitoes and other insects must be carefully considered. Screens must be put in and those tightened that get loose or broken; nets must be put over the babies' cribs, the days are getting so long the baby has to have more sleep in the daytime and must be protected from flies; more careful preservation and preparation of food is necessary to avoid infections and the many summer complaints that cost the lives

of so many babies every year. All of these things are done much better than they used to be, but there are still large numbers of babies who do not have the benefits of medical, health officer and public health nursing services, and until that time is reached, educational efforts will be a necessity.

The State Board of Health has an abundance of literature which can be read and understood by anybody who knows the alphabet and may be obtained free of charge at the price of one postal card and a request written on it and mailed to the State Board of Health, Raleigh, giving the name and address carefully of the person wanting the literature. In the month of May is a good time for such parents to make an effort to get information which will save the life of the baby.

It has been our custom for several years to print the tables in this issue giving the number of deaths and the death rate all over the State of babies under one year of age and of mothers who died as a result of maternal conditions, also by counties so that anyone living in one county can compare their own conditions with other counties. We also publish in this issue tables giving the rates by states for the same conditions so that we can all see how our State compares with the other states in the Union. These tables will be found elsewhere in this issue.

**Diphtheria** Elsewhere in this issue we have some tables prepared by Doctors Kendrick and Wilkins which give the number of deaths occurring in a series of years according to the age of the child dying as a result of diphtheria. These tables will be found interesting and helpful to all persons interested in controlling and eliminating diphtheria from this State and that should include everybody in the State.

Just as we set about writing these lines, a letter comes to our desk from one of the county health officers in a good county, describing a heartbreaking situation that occurred there this week. The Division of Preventive Medicine of the State Board of Health, through its maternal and child health service, using funds allotted by the United States Children's Bureau, for several years has been supplying free toxoid up to the limit of its budget to health officers for the purpose of immunizing babies and small children against diphtheria. This is a service which should be provided by the State Legislature through the Laboratory exactly as we are able to do in the case of typhoid and smallpox vaccine. Up to this time the Legislature has not made any such provision for this. It is hoped that effective July 1, an arrangement can be made with the State Budget Bureau for this service to be automatic for all physicians and health officers. This division, however, has done its best to provide toxoid in order that no child whose family is unable to pay the small fee required for immunization should be denied this life-saving service.

We quote from the letter before us:

"Yesterday we received the three hundred doses of diphtheria toxoid which you so kindly sent us. This was received in very good time because we

had reported to us three cases of diphtheria in the same family yesterday afternoon.

"I regret to report that two of these children died, one last night and one today. This family lived in a rather thickly populated section just outside of ....., and today we have had a large number of children in from that section wanting toxoid. We have scheduled a special vaccination clinic for this section tomorrow and I believe we will use all of the toxoid you sent us.

"Would it be possible for you to send us another three hundred doses? As bad as it seems it really takes something like this to make the parents realize the importance of immunization."

The foregoing tragedy or similar ones was very common thirty years ago. At that time no preventive had been worked out for diphtheria. Anti-toxin was available at a high price with which physicians could treat a child after it contracted the disease. This was a great step forward, but it did nothing to prevent the spread of diphtheria. The editor himself recalls on several occasions during the period from 1905 to 1913 when he was a practicing physician seeing one and two and in a few instances three children all stretched out dead at the same time on the same bed in the cabins and small homes of the poor people in his practice. The other physicians at the same time were having the same experience. Physicians would be called when the child's condition became extreme, which was often only a few hours before death struck and the physician would often arrive after the child died. It was a tragedy that was common and the physicians were helpless and such experiences put many gray hairs in the heads of more than one conscientious physician. In recent years, diphtheria toxoid has proved a

preventive when properly used in sufficient quantities and at the right time in fully 95 percent of all cases in which it is used.

The health officer in his letter above describes the situation that can be the result of nothing but wanton carelessness on the part of a whole section in the suburbs of one of the best smaller cities of our State. The health officer who wrote this letter is one of the best in the State. He has a competent service, the nurses in his department are competent, they all work hard, the physicians in that town are coöperative and assist in any way in which they are called on by the health officer, and yet all of this service is to no avail in this family because it ignored and was carelessly indifferent in protecting their children against diphtheria. It is a parental responsibility and the sooner that fact can be made to permeate into the minds of the poorest and wealthiest of the population in this State, the sooner diphtheria will be eradicated.

\* \* \* \*

### **Portable Incubators**

The cause of the largest number of deaths of infants under one year of age in North Carolina every year is premature births. The premature baby born before full term requires instant and careful attention from the moment of birth. When such attention is promptly and properly given, a large majority of these babies' lives could be saved, and after a few months would be just as healthy and lovable babies as any other kind. Furthermore, when properly cared for they grow up to maturity just as healthy and mentally capable adults as any other type of baby.

One of the needs everywhere is to have available immediately or certainly within an hour or two an incubator in which these babies may be cared for

sometimes for as much as three or four months, when they are ready to take their place in the family circle in the usual way.

Sometime ago, Dr. A. C. Bulla, the very able health officer of Raleigh and Wake County, wrote a letter to one of the members of the Wake County Medical Auxiliary—that is a group of women who are wives of physicians and who had asked him for his opinion on what kind of a program the doctors' wives could promote that would do most good and help most in reducing the infant death rate in Wake County and make for the happiness of such families. We are privileged to quote a paragraph from Dr. Bulla's letter, as follows:

"May I suggest what I think would be a splendid thing for the Wake County Medical Auxiliary to sponsor and which would be a fine opportunity to interest not only the members of the Auxiliary, but the medical profession as well, it is this: to provide portable incubators for home use for premature infants born in rural sections of the county. Last year we had fifty premature deaths in Raleigh and Wake County; twenty-five were residents of Wake County; however, ten of these births occurred in hospitals in Raleigh. My feeling is that this would be a great opportunity to save lives at very little cost. These incubators would make possible the maintenance of stable body temperature; they would make possible the proper feeding procedure to be carried out; they would prevent infection. Just what they would cost, I do not know, but this can be easily estimated. The number that should be made available probably should range from five to ten.

"However, before any definite action is taken on such a proposal, the Auxiliary should first present its plan to the Wake County Medical Society and

*(Continued on page six)*

## WHY WORRY?

The admonition, "Fret not thyself," occurs three times in the 37th Psalm; it is the warning which, substantially, has been given by thousands of physicians to patients whose worries have driven them to distraction. Summed up in softer and more sympathetic language, the Master of Galilee whispered persuasively into the ears of His disciples: "Fear not."

All of which adds significance to a 15-page pamphlet which has been published by and available from the Rev. P. D. Woodall, a Methodist minister living on North Main Street, Louisburg. Being a man of God, he writes on "Worry and Its Cure" from a Christian standpoint, which fits in soundly with the best medical advice, as his work has the endorsement of such men as Dr. Raymond S. Crispel, neurologist and psychiatrist, of the Duke Medical School. Endorsements come also from Dr. Julian W. Ashby, superintendent of the State Hospital for the Insane in Raleigh; Dr. J. K. Hall, of the Westbrook Sanatorium, Richmond, and Dr. S. P. Burt, of Louisburg.

The price of the pamphlet, which may be received by addressing the author in Louisburg, is ten cents, plus two cents for postage. The aid and comfort it gives cannot be measured in terms of dollars and cents.—W.H.R.

## NOTES AND COMMENT

*(Continued from page five)*

get its approval and, with the coöperation of the Wake County Health Department, proceed to put it into effect."

The above suggestion of Dr. Bulla is not only timely and wise and practical for Wake County, but for every one of the other counties in North Carolina. We wish to give our complete endorsement to his suggestion.



MARY O'NEAL BOURNE, daughter of Mr. and Mrs. Robert G. Bourne, Birmingham, Alabama, and granddaughter of Dr. and Mrs. Ernest A. Branch. Dr. Branch is director of the Division of Oral Hygiene of the State Board of Health.

## IN MEMORIAM

Public health workers all over the State were shocked and grieved on account of the tragic death in Washington, D. C., while testing a fighting plane on March 5 of Lt. Seymour Johnson, son of Dr. J. N. Johnson of Goldsboro who is Vice-President of the State Board of Health.

Lieutenant Johnson had just received his papers for promotion to the rank of lieutenant-commander. He was a graduate of the United States Naval Academy and had made a distinguished record in the Navy. He was one of the responsible and trusted pilots in the Air Corps, one of the most dangerous and important branches of naval service.

Lieutenant Johnson's death brings home to all of us the meaning of this cruel and brutal war raging in Europe. Lieutenant Johnson was a victim of the maniac Hitler just as much so as if he had fallen in battle.

All of us extend profound sympathy to Dr. Johnson and his family.

# The Care of the Premature Infant

By ROBERT B. LAWSON, *Pediatric Consultant*

State Board of Health

**A**LTHOUGH a great effort is being made at the present time to improve the care of all newly born infants, a special emphasis is being laid on the care of premature or immature infants. These babies are those born "before their time" who weigh less than  $5\frac{1}{2}$  pounds at birth, and those who, although full term, are small for other reasons, such as being one of twins. Because of their small size and lack of development, it is necessary to observe more exacting care in their handling.

The importance of prematurity in a public health program is easily seen when we realize that in 1939 of all deaths in infants under one year of age, 56 percent occurred under one month, and of these more than 50 percent were associated with prematurity. Although great strides have been taken in cutting down our death rate in infants over one month of age, little has been accomplished in this early period. In order to bring more of these small babies through this dangerous period we must combine the best efforts of the doctors, the nurses, and the hospitals, as well as the parents of the children themselves.

Our first effort should be to reduce the number of babies born prematurely, but this is not an easy task. The causes of labor beginning before the regular time are not fully known. We do know, however, that many more babies will be carried to the regular time if all mothers will make regular visits to their doctors through their entire pregnancy. Often conditions which may cause a premature labor can be corrected if the mother is seen early enough by her doctor.

In general a premature baby has a better chance for life if he is cared for in a good hospital. For this reason a mother who finds her baby is coming before its regular time should make a special effort to be delivered in the hospital. When this is not possible, one should arrange to carry the baby to the hospital as soon as the doctor feels it is safe. There are three factors one always keeps in mind when caring for premature babies: warmth, avoidance of infection, and careful feeding. These are guaranteed best by hospital care but should be kept in mind by all who have contact with these babies.

*Warmth:* Since the premature baby has not developed the ability to regulate his own temperature accurately, we must keep his temperature normal by controlling the temperature around him. Just as soon as he is born he should be carefully wrapped in warmed blankets and placed in a bed warmed to 80-90 degrees. Although special, electrically, heated infant incubators are available in some of the hospitals, even the poorest home can make a satisfactory bed from a box or basket, lined with newspaper or quilting to keep in the warmth. Hot water bottles, well protected by several layers of blanket, may be used to keep the bed warm, but one should always remember to protect the infant from burns, for they are particularly serious for a premature. Since premature babies lose heat very rapidly if they are exposed, they should not be bathed for several days after birth, and all care should be done without removing them from the warmed bed. The baby's temperature should be taken frequently, for overheating the infant is just as dangerous as not keep-

ing him warm. If the baby is born at home and it is decided to move him to the hospital a similar warmed and insulated box or basket should be used and arrangements made to change the hot water bottles if the trip is long enough to allow them to cool. An attempt should be made to keep the air moist about these babies by keeping an open pan of water steaming in the room.

*Avoidance of Infection:* All premature babies are very susceptible to infection and many die needlessly for this reason. Absolutely no one should be allowed to be in contact with these babies except those directly responsible for their care. If possible, a separate room should be provided for them as is done in a hospital. Adults frequently carry germs unknowingly to these babies, and what might be a mild cold to a full-term baby will often prove to be fatal for these weak infants. Needless to say, all utensils used for preparing the feedings should be carefully boiled.

*Feeding:* The feeding of premature infants is an art in itself and should never be started without the supervision of a doctor. Nothing is given for several hours after birth, and then very small amounts of boiled water are started to make sure the baby can swallow. They are often too weak to use a nipple so that one may have to use a rubber-tipped medical dropper or even a tube passed into the baby's stomach. After it has been established that the water is tolerated, a very small amount of milk (sometimes as little as one half teaspoonful at a time) is given. Breast milk is always most satisfactory, but if this cannot be obtained a satisfactory artificial formula can be worked out by the doctor. Once the feeding has been started, it is of utmost importance that increases are made slowly and never beyond the

point where they are taken with ease. Later when the baby is progressing well the doctor will make other additions to the diet to give him extra vitamins and iron.

It is very gratifying to see these tiny babies, sometimes weighing less than two pounds, thrive and grow to be strong children. More should grow up if we all keep in mind the special care they need. If possible they should be cared for in a hospital, but if this cannot be done, every effort should be made to give them the same benefits of warmth, avoidance of infection and careful feeding.



EUGENE RICHARD HUGHES, JR., 20-months-old son of Mr. and Mrs. E. R. Hughes of Raleigh, and nephew of Catherine Hughes, who for many years has been an efficient employee of the Division of County Health Work.

# Public Health Among Our Negro Population

By WILLIAM H. RICHARDSON

SOMETIME ago, one of our leading school men, who is concerned principally with Negro education, wrote the State Board of Health, asking for information as to just what is being done for the members of the Negro race. I shall endeavor at this time to give an outline of the information that was furnished as the result of this request.

Public health, like education, welfare and other activities, is administered for the benefit of the entire population rather than for any particular race or group. The benefits of government are, or at least should be, all inclusive. The humblest should share with the mightiest, the poorest with the richest, according to individual needs.

In public health, those who need its services most are the greatest beneficiaries, whether they be white people or Negroes, inhabitants of the rural districts, or urbanites.

While the work of the State Board of Health is administered for the benefit of all alike, yet the records are so kept that the Department is able to give facts on what is being done for our Negro population in some of the most important fields, and I believe that both white and Negro readers will be interested in reading some of the facts that have been assembled.

There are, as has been frequently published, two main angles to human experience—life and death. Through the processes of education, health and welfare, whether it be public or private welfare, we seek to make life more than a span of years, by putting into it and flavoring it with those elements which have a tendency to promote happiness here, in the physical state, and hereafter, in the spiritual

state. It is a trite saying, perhaps, but one which cannot be overemphasized, that to be really happy, one must be basically healthy.

With the development and expansion of public health, a new hope has been implanted into the bosom of man, as he has not only seen longevity increased, but has witnessed a winning battle against those diseases which preventive medicine has been able to curb through scientific advancement.

In public health, we call facts and figures concerning life and death vital statistics.

The Vital Statistics Division of the North Carolina State Board of Health in 1938, the last year for which these figures have been compiled for the purposes for which I wish to use them this afternoon, there were 80,603 births and 33,765 deaths in this State. Of the total number born, 55,956 were white people and 24,647 were Negroes; of the total number who died, 21,465 were white people and 12,300 were Negroes.

Please bear in mind in connection with this discussion that the State's estimated population is divided roughly as follows: Whites, 71 percent; Negroes, 29 percent.

During 1938, the total birth rate in North Carolina was 22.7 percent and the total death rate, 9.5, divided by races as follows: White birth rate, 21.9; Negro birth rate, 24.4; white death rate, 8.5; Negro death rate, 12.0.

During the fiscal year ending June 30, 1939, the State Board of Health's prenatal clinics were attended by 10,267 pregnant women of whom 8,696 were Negroes and 1,571 were white. The total percentage found to be syphilitic was 14.8, including, Negroes, 16.8 percent and whites, 3.69 percent.

Within the same period, there were 22,707 visits to the baby clinics conducted by the State Board of Health, and of this total, 15,022 were by Negro babies and 7,685 by white babies.

The total maternal death rate in North Carolina was 5.6 per 1,000 live births in 1938, divided as follows: White, 4.4; Negro, 8.3, while the death rate for infants under a year old was 68.3, the rate for white babies being, 59.6 and for Negro babies, 87.2 per 1,000 live births. These rates are all too high and could, no doubt, be materially reduced if all eligible women would take advantage of the opportunities offered by maternal and child health clinics. Several factors outside the range of public health combine to increase indigency among both Negroes and white people. Among our Negro population one of the biggest factors consists of low prevailing wage scales, which undoubtedly have a direct bearing on the health as well as the economic status of this group of the human equation.

There are two kinds of service rendered by public health. One affects the entire population, without regard to the individual of the group receiving it. This service has to do with the enforcement of laws and regulations necessary for the protection of society as a whole. It may pertain to immunization against disease, or to sanitation.

The other service is that which is voluntarily received — even sought after. As an example of the first service, the inspection of restaurants, hotels, etc., might be cited.

Attendance upon prenatal or child health clinics may be cited as an example of the second, or voluntary group of services. There is no law requiring indigent mothers to attend such clinics, but in each case the service is a very vital one and affects, very materially,

the lives of both mothers and babies. In fact, services rendered in these clinics have, without doubt, cut down the maternal and infant death rates. While there has been an upward spurt in such deaths during the early months of 1940, the trend for several years in both instances has been very definitely downward.

Continuing to outline the services rendered the Negro population by the North Carolina State Board of Health, we find, upon inquiry at the Division of Oral Hygiene, that during the last fiscal year, 23 school dentists made corrections for 66,491 children in our public schools. Included in this total was the work of six Negro dentists who made corrections for 13,582 Negro children. This is a vital part of the public health work, due to the fact that, from a survey of the mouths of children, we find that of the estimated million enrolled in our schools, white and colored, 85 percent of them need dental attention.

Up to June 30, 1938, the North Carolina State Board of Health's personnel had located 10,971 crippled children, of whom 2,205 or about one fifth, were Negroes. The total now is even greater. In fact, about 5,000 have been added, but the figures as to races are not available at the moment.

However, it is presumed that the ratio will run about the same. The lives of Negro children are being reclaimed and their feet are being set in paths of usefulness through orthopedic and plastic surgery, through the same methods and by the same personnel as are employed for work among our white children.

North Carolina was the first state in the Union to employ a Negro physician for full-time service. And I pause at this point to say that, at the recent social service conference, held in Win-

ston-Salem, this physician, Dr. Walter J. Hughes, delivered an address of such brilliance and comprehensiveness that he not only was quoted on the front pages of our leading daily newspapers, but received numerous letters from persons throughout the State complimenting him on the enlightening and helpful facts he gave in that address.

Dr. Hughes has now been assigned to duty, as has a Negro woman health educator, to the School Health Coördinating Service, which is developing plans for the teaching of health in our public schools on a uniform basis. Most of you are familiar with the objectives of this new and important service, which is being carried on by the State Board of Health in coöperation with the State Department of Public Instruction.

Of the 284 public health nurses in the various county and district units, 39 are Negroes and work exclusively among our Negro population. There are 11 part-time Negro physicians employed in venereal and maternal and infancy clinics.

Summed up, therefore, it may be said that the North Carolina State Board of Health is not only serving our Negro population along with the general population of the State, but is, as may be seen from the foregoing facts, making an earnest effort to meet the peculiar needs that exist among this important group, which comprises approximately a third of our people.

Negro health workers report that they are receiving the full and sympathetic coöperation of those among whom they have been assigned to work. They present to their people the problems that confront them with perfect candor, evading no facts, but, at the same time, letting it be known that the State, through the processes of education and preventive medicine, wishes to help them.

In other words, conditions among our Negroes, like some that exist among the white population, are not always pleasing, but the dark side of the picture must be presented in order that the light of truth and correction may be turned on and remedial measures put into operation.

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### HARM OF MAKING CHILDREN DIFFERENT

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"There probably is no unhappier child than the one whose parents insist that he be different, wear different clothes, have a different kind of haircut, or in some other way be made conspicuous," Douglas E. Lawson, Ph.D., Carbondale, Illinois, declares in *Hygeia, The Health Magazine*. "Children's personalities carry the scars, sometimes for life, when parents attempt this kind of personality surgery in the effort to create an improved variety of child."

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ABOUT TO BE "SHOT"

Dr. J. H. Epperson, Superintendent of the Durham Health Department, sends us this photograph taken in one of their clinics a few days ago. Epperson thinks the title should be "Nature Study of a Boy About to Receive a 'Shot.'" We agree.

## Baby Teeth

By ERNEST A. BRANCH, D.D.S., *Director*  
Division of Oral Hygiene  
North Carolina State Board of Health

WE are glad that in most households the appearance of baby's first tooth is regarded as an event of great importance. However, we fear that few mothers realize just how essential it is for the baby teeth to receive the proper care.

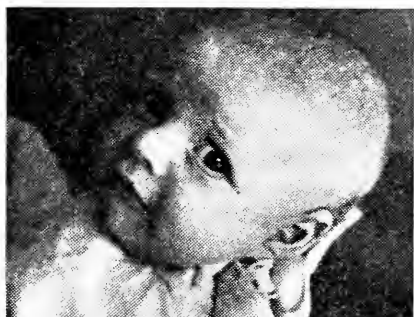
The first tooth comes when a child is from six to eight months old and by the time the child is two or two and a half years old he has all of his temporary teeth. The temporary teeth should have the best of care, and the most important factor in caring for them is the child's diet. The right foods will protect these first teeth and will help to build the second teeth which are growing under the temporary teeth. Tooth-building foods that the child should eat are: milk, at least a quart a day, green vegetables, fresh fruits and whole-grain cereals and breads. The child's diet should include hard, coarse foods that will give his jaws exercise.

Another important factor in the care of the temporary or deciduous teeth is the establishment of proper cleansing habits. As soon as the baby teeth come the mother should brush them, using a small brush. It is all right to use salt water or a mild tooth paste or powder. As the child grows older he should brush his own teeth, under the supervision of the parent. The teeth of the child should be thoroughly cleansed both morning and night.

The dentist can help in caring for your child's first teeth. Baby's first visit to the dentist should be made when he is two or two and a half years old, or when he has all of his first teeth. It is a good idea for this first visit

to the dentist to be a social call so that your child and your family dentist may become friends. When the baby feels at home in the dentist's office the work may begin. The dentist will go over the baby's teeth carefully to see if there are any small cavities or any imperfections in the enamel which might result in cavities. After this first visit to the dentist take your child regularly every few months. Your dentist will help you by giving you advice about your child's diet, by instructing the child as to the proper method of brushing his teeth, by keeping the teeth free from decay and by watching to see that the child's jaws are growing properly.

We hope no parent will be guilty of saying "never mind the baby teeth, they will come out anyway," or of acting upon this very erroneous statement. First teeth are as important as second teeth and need the same care.



MARTHA KAY SHAW

Kay was ten weeks old when this picture was made. She is the infant daughter of Mr. and Mrs. Reuben Shaw, now of Philadelphia. Mrs. Shaw was Martha Castlebury of Raleigh, formerly employed in the Division of County Health Work.

## *Will Diphtheria Strike Your Home?*

### Three Fourths of the Deaths From This Disease Are Among Children Under Five

By WALTER E. WILKINS, M.D.

**D** ID you know that during the past thirteen years diphtheria has killed 2,765 people in North Carolina? It injured and permanently weakened many others. Why? Because some people have been careless about having their children immunized. We know how to prevent these deaths but some of us are not using what we know.

At what age is diphtheria most dangerous? Let's look at the figures. Of these 2,765 people who died from diphtheria, 349 or 12 percent were under one year of age, and 1,784 or 64 percent were between one and five years of age. In other words, 2,133 or 76 percent were under five years of age.

Judging by these figures, is it safe to wait until the child is five or six years old to have him immunized against diphtheria? Absolutely not, because three fourths of the deaths from diphtheria occur in children under five years of age.

What can we do about this? How can we save these children? By having every child immunized (given the diphtheria "shots") before he is one year of age.

Has diphtheria been decreasing in North Carolina during the past few years? Let's look at the figures below. In 1928 there were reported 355 deaths from diphtheria. Notice how during the following years the general trend has been downward. In 1940 there were 119 deaths reported from this disease. One hundred and nine of these 119 were less than ten years of age, and 87 were below five years of age. Suppose one of these 119 had been a member of your family. Deaths from diphtheria are decreasing because more and more children are taking the diphtheria "shots." Are the children in your family protected? Are the children of your friends protected?

Let's make it our business to see that every child under one year of age in every family is immunized against this dreadful disease. What will the figures for 1941 show? How many children are going to die from diphtheria this year in North Carolina? Will there be one from your family? Well, that depends upon what you do to prevent such deaths. Are you doing your part?

#### NUMBER OF DEATHS IN NORTH CAROLINA FROM DIPHTHERIA, BY YEAR AND AGE GROUPS, 1928-1940

YEAR	TOTAL NO. DEATHS	UNDER 1 YEAR	1 TO 4 YEARS	5 TO 9 YEARS	10 TO 14 YEARS	15 TO 19 YEARS	ABOVE 20 YEARS
1928	355	40	233	68	7	0	7
1929	324	21	231	61	8	1	2
1930	275	28	196	37	7	0	7
1931	230	22	147	46	5	1	9
1932	165	34	99	26	0	2	4
1933	218	31	135	42	3	0	7
1934	209	37	121	40	4	2	5
1935	164	25	101	34	2	1	1
1936	192	32	117	38	2	0	3
1937	168	27	103	33	1	1	3
1938	176	18	113	39	3	0	3
1939	170	21	114	31	1	1	2
1940	119	13	74	22	0	2	8
TOTAL	2,765	349	1,784	517	43	11	61

These figures show only the deaths. We will never know how many of the other 30,366 people, largely children, who had the disease during this period were weakened and injured for life. *Remember this:* Every infant should be immunized as soon as possible after it is six months old.

### LIVE BIRTHS, INFANT MORTALITY AND MATERNAL MORTALITY UNITED STATES, 1939

STATE	LIVE BIRTHS		INFANT MORTALITY (Deaths in the 1st Year of Life)		MATERNAL MORTALITY	
	Number	Rate Per Thousand Population	Number	Rate Per Thousand Live Births	Number	Rate Per Thousand Live Births
United States.....	2,265,588	17.3	108,846	48.0	9,151	4.0
Alabama.....	61,385	21.8	3,675	59.9	361	5.9
Arizona.....	10,928	22.2	1,031	94.3	48	4.4
Arkansas.....	35,565	18.3	1,637	46.0	202	5.7
California.....	103,453	15.2	4,385	42.4	321	3.1
Colorado.....	20,692	18.6	1,134	54.8	111	5.4
Connecticut.....	23,463	13.8	842	35.9	60	2.6
Delaware.....	4,384	16.6	193	44.0	18	4.1
District of Columbia.....	14,037	21.6	669	47.7	73	5.2
Florida.....	32,328	17.5	1,322	56.4	211	6.5
Georgia.....	64,781	20.9	3,780	58.4	362	5.6
Idaho.....	11,063	21.4	508	45.9	24	2.2
Illinois.....	117,841	15.0	4,474	38.0	370	3.1
Indiana.....	58,349	17.1	2,302	39.5	210	3.6
Iowa.....	43,765	17.3	1,697	38.8	131	3.0
Kansas.....	29,115	16.1	1,146	39.4	108	3.7
Kentucky.....	60,587	21.5	3,187	52.6	262	4.3
Louisiana.....	48,844	20.9	3,077	63.0	302	6.2
Maine.....	14,987	17.8	785	52.4	59	3.9
Maryland.....	28,291	15.8	1,422	50.3	105	3.7
Massachusetts.....	63,657	14.7	2,358	37.0	224	3.5
Michigan.....	94,418	18.3	3,955	41.9	289	3.1
Minnesota.....	50,237	18.1	1,798	35.8	148	2.9
Mississippi.....	51,721	23.8	2,907	56.2	307	5.9
Missouri.....	58,876	15.6	2,655	45.1	243	4.1
Montana.....	10,897	19.7	534	49.0	35	3.2
Nebraska.....	22,338	16.9	816	36.5	78	3.5
Nevada.....	1,940	17.8	87	44.8	8	4.1
New Hampshire.....	7,934	16.3	363	45.8	27	3.4
New Jersey.....	56,379	13.6	2,184	38.7	182	3.2
New Mexico.....	14,215	27.3	1,549	109.0	71	5.0
New York.....	187,575	14.1	7,370	39.3	603	3.2
North Carolina.....	79,149	22.4	4,683	59.2	374	4.7
North Dakota.....	13,158	20.5	645	49.0	32	2.4
Ohio.....	109,272	15.9	4,691	42.9	424	3.9
Oklahoma.....	43,471	18.6	2,162	49.7	176	4.0
Oregon.....	16,715	15.5	593	35.5	40	2.4
Pennsylvania.....	161,049	16.3	7,343	45.6	613	3.8
Rhode Island.....	10,444	14.8	412	39.4	35	3.4
South Carolina.....	42,811	22.6	2,834	66.2	253	5.9
South Dakota.....	11,616	18.0	481	41.4	34	2.9
Tennessee.....	53,353	18.5	2,874	53.9	297	5.6
Texas.....	121,049	19.0	8,110	67.0	590	4.9
Utah.....	13,007	23.9	514	39.5	40	3.1
Vermont.....	6,375	17.8	291	45.6	23	3.6
Virginia.....	52,921	20.0	3,221	60.9	268	5.1
Washington.....	26,538	15.5	976	36.8	95	3.6
West Virginia.....	41,545	22.0	2,272	54.7	136	3.3
Wisconsin.....	54,168	17.4	2,179	40.2	151	2.8
Wyoming.....	4,897	20.0	223	45.5	17	2.5

**TOTAL NUMBER OF BIRTHS AND DEATHS UNDER ONE YEAR OF AGE  
(EXCLUSIVE OF STILLBIRTHS) AND MATERNAL DEATHS IN EACH  
COUNTY, WITH RATE PER THOUSAND LIVE BIRTHS, 1939**

	INFANT MORTALITY				MATERNAL MORTALITY				TOTAL BIRTHS	
	PLACE OF DEATH		PLACE OF RESIDENCE		PLACE OF DEATH		PLACE OF RESIDENCE		By Place of Birth	By Place of Residence
	No.	Rate	No.	Rate	No.	Rate	No.	Rate		
Entire State.....	4,670	59.1	4,661	59.0	396	5.0	395	5.0	78,957	79,020
Alamance.....	37	34.2	44	38.7	2	1.8	3	2.6	1,083	1,137
Alexander.....	15	47.6	15	44.8	1	3.2	1	3.0	315	335
Alleghany.....	14	100.0	14	94.6					140	148
Anson.....	33	43.7	33	45.6	4	5.3	4	5.5	756	724
Ashe.....	23	47.8	23	45.7	2	4.2	3	6.0	481	503
Avery.....	23	52.4	19	46.2					439	411
Beaufort.....	104	107.0	92	101.2	9	9.3	7	7.7	972	909
Bertie.....	77	107.5	76	107.8	2	2.8	3	4.3	716	705
Bladen.....	35	48.0	42	54.6	4	5.5	5	6.5	730	769
Brunswick.....	21	49.1	25	54.8	2	4.7	3	6.6	428	456
Buncombe.....	147	70.1	143	69.6	13	6.2	12	5.8	2,097	2,054
Burke.....	23	29.4	25	30.8	3	3.8	3	3.7	781	811
Cabarrus.....	53	51.1	64	56.6	5	4.8	9	8.0	1,038	1,130
Caldwell.....	55	58.2	59	62.6	2	2.1	2	2.1	945	943
Camden.....	8	68.4	9	73.8					117	122
Carteret.....	22	55.3	26	65.8	2	5.0	2	5.1	398	395
Caswell.....	19	40.1	23	45.8	1	2.1	3	6.0	474	502
Catawba.....	59	54.5	56	51.7	2	1.8	2	1.8	1,083	1,084
Chatham.....	19	41.5	22	47.5	3	6.6	6	13.0	458	463
Cherokee.....	24	43.0	21	37.7	2	3.6			559	557
Chowan.....	29	91.2	29	92.4					318	314
Clay.....	11	80.3	12	72.7					137	165
Cleveland.....	54	40.4	52	39.2	1	0.7	2	1.5	1,336	1,328
Columbus.....	81	66.6	90	70.3	6	4.9	5	3.9	1,216	1,281
Craven.....	62	92.5	64	93.0	3	4.5	4	11.6	670	688
Cumberland.....	94	78.7	62	53.9	14	11.7	7	6.1	1,195	1,151
Currituck.....	6	72.3	7	76.9	1	12.0	1	11.0	83	91
Dare.....	8	65.0	8	63.0					123	127
Davidson.....	50	49.5	53	51.4	4	4.0	5	4.8	1,011	1,031
Davie.....	24	69.4	26	76.7					346	339
Duplin.....	53	51.4	72	67.1	2	1.9	8	7.5	1,031	1,073
Durham.....	127	71.3	79	53.0	14	7.9	4	2.7	1,781	1,491
Edgecombe.....	78	64.1	75	62.0	5	4.1	3	2.5	1,217	1,210
Forsyth.....	140	60.1	133	55.6	15	6.4	14	6.2	2,329	2,268
Franklin.....	38	55.2	48	66.6	1	1.5	2	2.8	688	721
Gaston.....	89	53.3	97	55.7	9	5.4	10	5.7	1,669	1,741
Gates.....	14	57.6	15	55.4			1	3.9	243	257
Graham.....	7	41.4	9	51.7					169	174
Granville.....	29	42.4	30	43.9	4	5.8	5	7.3	684	683
Greene.....	23	45.4	27	49.2	3	5.9	4	7.3	507	549
Guilford.....	133	48.1	122	45.5	16	5.8	16	6.0	2,765	2,684
Halifax.....	75	50.0	83	56.8	6	4.0	7	4.8	1,499	1,461
Harnett.....	48	45.3	68	62.8			4	3.7	1,059	1,082
Haywood.....	43	47.4	46	50.4	3	3.3	3	3.3	907	912
Henderson.....	28	49.9	28	50.9	2	3.6	3	5.5	561	550
Hertford.....	30	66.4	35	74.0	1	2.2	4	8.5	452	473
Hoke.....	17	43.5	18	45.0	1	2.6	1	2.5	391	400
Hyde.....	8	48.5	8	48.5	1	6.1	1	6.1	165	165
Iredell.....	74	65.4	64	64.5	11	9.7	5	5.0	1,132	992
Jackson.....	23	50.3	23	49.7	1	2.2	1	2.2	457	463
Johnston.....	77	49.5	94	57.8	5	3.2	6	3.7	1,555	1,626
Jones.....	24	79.2	28	85.9	1	3.3	1	3.1	303	326
Lee.....	22	55.1	21	55.9	3	7.5	3	8.0	399	376
Lenoir.....	97	88.2	83	83.9	13	11.8	11	11.1	1,098	989
Lincoln.....	21	43.7	20	43.9	1	2.1	1	2.2	481	456
McDowell.....	21	38.6	21	38.9	3	5.5	3	5.6	544	540
Macon.....	18	44.7	20	50.6	1	2.5	1	2.5	403	395
Madison.....	39	76.3	39	75.3					511	518
Martin.....	37	56.5	44	65.6	2	3.1	3	4.5	655	671
Mecklenburg.....	178	62.5	155	57.4	13	4.6	11	4.1	2,846	2,700
Mitchell.....	15	32.8	17	33.1	2	4.4	2	4.5	457	446
Montgomery.....	7	31.0	10	31.1	1	3.3	2	6.2	303	322
Moore.....	27	43.5	23	36.1					621	638

**TOTAL NUMBER OF BIRTHS AND DEATHS UNDER ONE YEAR OF AGE (EXCLUSIVE OF STILLBIRTHS) AND MATERNAL DEATHS IN EACH COUNTY, WITH RATE PER THOUSAND LIVE BIRTHS, 1939— (Continued)**

	INFANT MORTALITY				MATERNAL MORTALITY				TOTAL BIRTHS	
	PLACE OF DEATH		PLACE OF RESIDENCE		PLACE OF DEATH		PLACE OF RESIDENCE		By Place of Birth	By Place of Residence
	No.	Rate	No.	Rate	No.	Rate	No.	Rate		
Nash.....	115	76.4	96	63.9	19	12.6	15	10.0	1,506	1,503
New Hanover.....	92	80.5	56	57.1	9	7.9	2	2.0	1,143	980
Northampton.....	32	46.6	33	45.4			1	1.4	686	727
Onslow.....	37	70.3	41	73.7	1	1.9	1	1.8	526	556
Orange.....	7	22.3	15	36.8	1	3.2	2	4.9	314	408
Pamlico.....	14	54.9	14	53.6	2	7.8	2	7.7	255	261
Pasquotank.....	33	94.8	32	99.6	2	5.7	2	6.0	348	333
Pender.....	23	57.4	26	53.2	3	7.5	5	11.2	401	447
Perquimans.....	13	59.6	13	58.0			1	4.5	218	224
Person.....	26	42.8	32	62.2	2	3.3	3	4.9	608	612
Pitt.....	100	71.7	109	75.6	10	7.2	14	9.7	1,395	1,442
Polk.....	13	64.4	9	47.6	1	5.0	1	5.3	202	189
Randolph.....	34	41.3	40	46.3	3	3.6	2	2.3	824	863
Richmond.....	38	50.5	42	53.7	3	4.0	2	2.6	753	782
Robeson.....	126	56.4	122	56.3	15	6.7	13	6.0	2,236	2,167
Rockingham.....	71	57.8	73	58.8	6	4.9	5	4.0	1,229	1,241
Rowan.....	58	50.6	54	47.7	6	5.2	6	5.3	1,146	1,132
Rutherford.....	45	42.9	48	45.8	6	5.7	6	5.7	1,049	1,047
Sampson.....	80	64.8	92	73.4	6	4.9	10	8.0	1,234	1,254
Scotland.....	38	79.3	39	78.6	3	6.3	3	6.0	479	496
Stanly.....	29	42.4	29	43.6	4	5.8	5	7.5	684	665
Stokes.....	25	50.0	27	52.3			2	3.9	500	516
Surry.....	67	66.2	62	64.1	10	9.9	8	8.3	1,012	967
Swain.....	16	43.8	16	43.5			2	8.2	365	368
Transylvania.....	18	56.3	17	54.5	3	9.4			320	312
Tyrrell.....	10	61.9	10	64.1					154	156
Union.....	60	65.9	60	65.6	2	2.2	1	1.1	910	914
Vance.....	44	68.2	43	67.5	6	9.3	5	7.8	645	637
Wake.....	156	74.1	150	70.5	15	7.1	14	6.6	2,106	2,127
Warren.....	45	78.8	48	82.5	2	3.5	4	6.9	571	582
Washington.....	14	50.2	14	49.3					279	284
Watauga.....	20	40.9	24	50.0	1	2.0	1	2.1	489	480
Wayne.....	107	86.9	104	83.6	9	7.3	9	7.2	1,232	1,244
Wilkes.....	54	52.7	54	52.6	6	5.9	6	5.8	1,025	1,027
Wilson.....	94	76.2	91	77.2	10	8.1	7	5.9	1,234	1,178
Yadkin.....	9	26.1	18	44.8	1	2.9	1	2.5	345	402
Yancey.....	17	82.1	19	40.3	1	4.8	1	2.1	207	471

**EXCERPT FROM A TALK,  
"INDUSTRIAL HEALTH—  
A SAFETY FACTOR"**

*By M. F. TRICE*

"Colds and other respiratory diseases undoubtedly could be reduced in extent by putting on a campaign to stop indiscriminate spitting on floors. The dried sputum from one person may reach the mouth and nostrils of another in the dust that rises from the floor. Putting it bluntly, therefore, a worker would not allow another—diseased or not—to spit into his or her mouth or nose; yet, that is, in effect, exactly what happens daily in a great many plants where spitting is high, wide and fancy."

**HITLER'S MEASLES**

Dr. W. B. Hunter, Harnett County Health Officer, sends us the following note which was sent to a teacher in Lillington from a fourth grade pupil who was a victim of the recent widespread measles epidemic in this State:

"Dear Miss Hendricks: I am sorry I can't be with you all. I think I am taking Hitler's measles."

The child had been told that he was taking German measles which is known as a type of measles generally milder than the ordinary measles, which has also been rampant in this section this winter. We agree with Dr. Hunter, it is a sample of genuine humor, and indicates that that is one fourth grader who reads the papers.



# The Health Bulletin

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Vol. 56

JUNE, 1941

No. 6



CAPTAIN NORTON AND FIRST LIEUTENANT WORTH

The above picture shows two former Assistant Directors of the Division of Preventive Medicine of the State Board of Health, Doctors J. W. R. Norton and Thomas C. Worth. Both are now officers in the United States Army and both are stationed at Fort Bragg. They are able, competent physicians and health officers. We feel sure that each will acquit himself creditably in the military service.

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
Diabetes	Malaria	Typhoid Fever
Diphtheria	Measles	Venereal Diseases
Don't Spit Placards	Pellagra	Vitamins
Eyes	Residential Sewage	Typhoid Placards
Flies	Disposal Plants	Water Supplies
Fly Placards	Sanitary Privies	Whooping Cough

### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months, 2 to 3 years; 3 to 6 years.
Breast Feeding	Instructions for North Carolina Midwives
Infant Care. The Prevention of Infantile Diarrhea	
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# THE Health Bulletin

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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D., *Editor*

## A Day at Fort Bragg

EDITORIAL CORRESPONDENCE

IF there is an individual anywhere who has any misgivings about the character of defense preparations now going on all over the country, a visit to this place should set his mind at ease. The three-hour stay here has reassured us on many points. We have lived within fifty miles of Fort Bragg ever since it was established, but never before having had any specific business here, this is our first visit. And in a sense it has been worth waiting for. Having had some knowledge of the system followed in army training camps hurriedly established in 1917 and 1918, the situation here is reassuring.

We came on the invitation of two young physicians formerly associated with us in the State Board of Health work at Raleigh. Dr. Norton, a captain in the Reserve Officers Corps, and Dr. Worth, newly inducted into the service as a first lieutenant, invited us down to see things first hand and to so report in THE HEALTH BULLETIN.

Fort Bragg is a permanent establishment, having been set up in 1918-1919 when about 122,000 acres were carved out of Cumberland and Hoke counties. The larger land area is taken from Hoke County, but the buildings are near the eastern end of the roughly rectangular eight-by-twenty-four-mile reservation. The field artillery range is the largest in the world. About 50,000 troops are here now (April 25)

and the number is expected to reach 60,000 or more by July 1.

It is situated in the old long-leaf pine belt of the sandhill country northwest of Fayetteville about three to five hundred feet above sea level. The very nature of the soil with its well-drained rolling sandhills affords a naturally perfect setting from a health standpoint.

The purpose of this sketch, however, is to pass along to the families of the young men sent here for induction into the United States Army the genuine reassurance that every item affecting the health and morale of the drafted men is given competent attention.

The first thing which impressed us is the universal courtesy everywhere evident. We did not exactly know how to find the office of the Medical Inspector, which would be Dr. Norton. But if we had been a customer in a department store with a million dollars to spend we could not have been treated any more courteously. The traffic officers of every town in three hundred miles of here should come and take lessons in courtesy and efficiency from these boys in uniform, directing traffic. One major at general headquarters even phoned the young woman secretary in Dr. Norton's office to come out in front of the building and flag us down or in—and she recognized us from his description and piloted us into the right building. So on throughout

the whole vast enterprise. There is no sense of rush or confusion which would be expected in such a place with 50,000 officers and men and about 20,000 civilian workers busy on remaining construction jobs. Order and system and determination to outdo the Germans themselves in thorough preparation for the job to be done literally permeates the atmosphere.

In our short visit we have run into two or three medical acquaintances. All seem to be determined to let no detail escape which might hinder the job to be done.

The whole system of medical examination and classification is a sample of the competent attention to detail. And in every individual case full consideration is shown the soldier whether he be the ex-director of the New York Stock Exchange leaving his \$48,000-a-year job for the army and \$21 a month or a Negro farm hand from Northampton County. As one of the doctor officials in the classification office explains it, "Care is taken to avoid assigning an expert truck driver to work in the bakery, and vice versa." The great new hospital of 1,680 beds recently completed and pictured on the back page of this issue provides every possible care, medical, surgical, special, nurs-

ing, etc., in case of unusual demands. Every modern device of science and preventive medicine is used to prevent illness and to treat disease. For example, Dr. Worth is in charge of a large variety of modern X-ray equipment.

Food of the very best is provided and some of the mess halls serve 1,000 or more at a time, cafeteria style, with very little delay or waiting in line for any man.

The medical and engineering service works in close coöperation with the State and Cumberland health departments in such things as milk supply, malaria prevention and control, venereal disease prevention, food inspection, and so on, for the entire environs of the Post.

We are indebted to our long-time friend, Mr. Ben Dixon McNeill, for the excellent photographs used on the front and back covers. Mr. McNeill is doing a fine job of keeping the people informed through the newspapers of the work at Fort Bragg.

In short, it seems to us that a parent should have fewer misgivings in releasing a son for service in the army at Fort Bragg than in sending him off to a distant college or university.

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## Telegram From Miss Katharine Lenroot

*Chief of the United States Children's Bureau*

**J**UST as we go to press with this issue, we are in receipt of the telegram quoted in full below from Miss Lenroot, who is the head of the United States Children's Bureau. We think the contents of this telegram should be before not only the physicians, health officers and public health workers throughout the State, but in the hands of other responsible citizens. We, therefore, quote the telegram in full:

"DR. G. M. COOPER  
State Director, Maternal and Child  
Health Services  
State Board of Health  
Raleigh, North Carolina

"Following recommendations adopted today by state and territorial health officers in conference with the Children's Bureau are transmitted to you on authorization of the conference as a special message for release on May Day:

"In view of the high proportion of young men examined under the Selective Service Act who have been found to be physically unfit for general military service and believing that protection of the health of the children of the nation is essential to the present morale and future defense of our democracy, the state and territorial health officers in conference with the Children's Bureau urge that all children and youth be assured continuous health supervision, and medical, surgical and dental care when needed. The conference recommends:

"1. That existing services for maternal and child health should in no case be curtailed, but should be maintained at the highest possible level of efficiency.

"2. That additional maternal and child health services should be pro-

vided particularly for military and industrial defense areas, and areas suffering loss of personnel.

"3. That every local, full-time health unit should provide at least the following basic medical services for mothers and children: Prenatal clinics; child health conferences, and medical examinations of school children, developed by the health department in coöperation with departments of education.

"4. That additional services should be provided as rapidly as possible to assure throughout the nation: (a) Complete maternity care for all patients who cannot obtain such care through their own resources. (b) Continuous health supervision for all children. (c) Medical, surgical, and dental care as needed to assure the health of infants and children."

LENROOT."

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## Child Health and National Defense

LIFE is humanity's most precious possession, death its most dreaded enemy. In order to survive, man will go to any extreme, even to that of taking the life of another. The same is as true of nations as of individuals. Even now, our own country is preparing to defend itself against a possible attack, which, if successful, undoubtedly would mean the end of our national existence. Since 1939, every country on the European Continent, with but a few exceptions, has been killed, at least temporarily. The fangs of despotism have been driven deep into China, in Asia. Australia fears the loss of her national existence. Spain apparently stands as a robot, ready to do the bidding of Hitler and Mussolini; Turkey is quivering in its boots, while Russia remains an enigma.

America, alone, with the exception of Great Britain, stands out as the sole surviving democracy still free to call its soul its own. How important it is, then, that we maintain a healthy citizenship in order to prepare ourselves for the ordeals which may lie in the offing.

In the crucial test, if it comes, our courage will be measured by our health. To attain a healthful status, we must begin with our children.

Let us consider the infant death rates that prevailed in those unfortunate nations before Hitler murdered them—nations which were unable to defend themselves. In 1936 the infant death rate in Czechoslovakia, the first victim of the Munich appeasement, was 124 out of every 1,000 live births—meaning that 124 out of every 1,000 children born died before they reached the age of one year.

The next victim was Poland. The infant mortality rate in that country was 141. Let's look at some of the others: Belgium, 86; Bulgaria, 143; Rumania, 175; Yugoslavia, 137; Greece, 107, and so on.

Not all of these countries were actually attacked by military force, but they were all weak and could not successfully resist. France had an infant mortality rate of only 67, which was low, as compared with the others, but there were other factors involved which added to the weakness of that republic. In Italy, which suffered ignominious defeats before Hitler extended help, the infant mortality rate was 100 in 1936.

How about Germany? Her infant mortality rate in 1936 was only 66, but this compared with a rate of 122 during the period of 1921-1925, revealing the fact that while Germany was preparing for its successful military and diplomatic conquest, it also was lowering its infant mortality rate for the purpose of building up its potential man power.

During the same period, rate prevailing in the United Kingdom fell from 78 to 62. Britain, alone, with the lowest infant mortality rate reported, has held out against Hitler, and Britain today awaits help from the United States, whose infant mortality rate, according to the provisional report for 1939, had dropped to 48, as compared with 74 for the period of 1921-1925.

What are the lessons to be drawn from these figures? Such lessons may be purely conjectural on the part of the student. However, would it not be reasonable to assume that nations which have reduced their infant mortality are in a better position to withstand the assaults of an enemy, in that, with a healthy babyhood, they should have a healthier manhood than those nations which have not seen to it that their children were given early protection?

Going further, is it not reasonable to assume that the United States, with a present infant mortality rate of, say, 48, would be better prepared to defend itself than was Czechoslovakia, with an infant mortality rate of 124? Czechoslovakia was sold "down the river" against its consent, and could not resist. Poland, with an infant death rate of 141, withered under Hitler's fire.

We have just recently witnessed the tragedy of Greece, with its infant mortality rate of 107, according to the latest available figures.

If America has a place on Hitler's schedule, whether he makes port or not will depend largely on the health of the nation, which, viewed from any angle, constitutes an integral part of the "state of the nation."

But let's come nearer home.

What about North Carolina? What have we done, and what are we doing to save our babies?

We must admit having an infant mortality rate that is all too high. On the other hand, we have progressed.

Here are some interesting facts: Since registration began in North Carolina in 1914, the State Board of Health has recorded 2,139,002 births, and 894,926 deaths. Of these deaths, 170,334, or 19 percent of the total, occurred among children under a year old.

This sounds like an astounding figure, and it is—but, bear this fact in mind: If the infant mortality rate of 90.3 which prevailed when registration began, had been maintained through 1940, the total would have been 192,828 or 22,494 more than the more than 170,000 referred to. And, last year, instead of 4,646 infant deaths, which was the lowest number on record, there would have been 7,312.

Last year also witnessed the lowest infant mortality rate on record in North Carolina—56.3, as compared with 59.1 the previous year and 90.3 in 1914.

A study of these figures presents a revelation that should furnish food for thought, in view of the present emergency. For example, during the two years in which the United States was an active participant in the first World War—that is, 1917-1918—our infant mortality rate in North Carolina was 99.2 and 98, the highest on record. Think for a moment and you will, doubtless, reach some very definite conclusions from these figures. War brings disorganization; it takes from the field of practice some of our best physicians and nurses. This naturally increases the hazards of pregnancy, childbirth and early infancy.

Is it not reasonable, then, to assume that the handicaps resulting in these hazards are likely to recur in 1941 or 1942, perhaps?

Now, what is the conclusion to be reached from this? It is that, while there is yet time, parents and prospective parents should avail themselves of every opportunity to secure enlightenment that will stand them in stead in

case of another emergency, similar to that which existed in 1917 and 1918.

Public Health, through its maternity and infancy work and associated activities, must claim its share of the credit for what has been accomplished in North Carolina, even though the goal by no means has been reached.

Progress has been made. As has been previously pointed out, 19 percent of all deaths that have been recorded in North Carolina since registration began occurred among infants under a year old. The 6,479 infant deaths that occurred in 1914 constituted 22.3 percent of the total deaths reported that year, as compared with 14.4 percent during 1940.

Much remains to be done, and you can do much to help save our babies from unnecessary death. If you wish to enlist in this great undertaking, address a card or a letter to the Division of Preventive Medicine, State Board of Health, in Raleigh; ask how you can do this, and the information will be immediately supplied.

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## NEXT MEETING AMERICAN PUBLIC HEALTH ASS'N

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The Executive Board of the American Public Health Association announces the dates of the 70th Annual Meeting as October 14-17, 1941. The meeting place is Atlantic City, New Jersey. Headquarters for the meeting will be the Convention Hall. Residence headquarters will be the Hotel Traymore.

The 69th Annual Meeting held in Detroit in October, attracted an attendance of more than 3,100 from all parts of the United States and also from Canada, Cuba and Mexico. The 70th Annual Meeting, it is expected, will bring together more than 3,500 professional public health workers.

A New Jersey committee responsible for entertainment, inspection trips and other local aspects of the meeting is being formed under the direction of Dr. S. L. Salasin, Health Officer of Atlantic City.

A number of related organizations habitually meet with the American Public Health Association. They will do so again at Atlantic City. Among them are the American School Health Association, the International Society of Medical Health Officers, the Association of Women in Public Health, the Conference of State Sanitary Engineers, the Conference of Municipal Public Health Engineers, and the Conference of State Provincial Public Health Laboratory Directors.

## TEETH ADDED TO LAW RE-QUIRING HEALTH TESTS

Dr. William B. Hunter of Lillington, director of the county health department, is well pleased with the coöperation which his venereal disease clinics have received from domestic servants who are required to present their employers with certificates which show the condition of their health. Only a few times during the five years the department has been functioning has it been necessary to force servants into complying with the law.

Some housewives are not acquainted with the law. Some cooks and persons employed in private homes have been hanging back and have not been reporting for periodical examinations. It is on account of these laggards that the 1941 General Assembly placed in the law sharp teeth which will increase the effectiveness of the public health program.

Before accepting a job as household servant, the applicant must present the prospective employer with a certificate which shows (1) that they have been examined within two weeks prior to the date; (2) that they are free from contagious, infectious and communicable diseases and (3) that they do not have any venereal disease which might be transmitted to members of the family. The law also provides that at least once a year or as often as the employer may require, domestic servants must be examined.

The section which provides punishment for failure to comply was added by the recently adjourned Legislature. It specifies that any domestic servant who fails to obey the measure upon conviction shall be fined not more than \$50 or imprisoned for more than thirty days.—*Harnett County News*.

## WARN OF DANGERS OF SWIMMING IN PONDS CONTAMINATED BY RATS

The danger of bathing in ponds that may be polluted by rats is pointed out by W. Paul Havens, M.D., Carl J. Bucher, M.D., and Hobart A. Reimann, M.D., Philadelphia, in *The Journal of the American Medical Association* for January 25 in a report of seven young men who contracted an acute infectious disease while bathing in the dammed up waters of a stream which probably had been contaminated by rats infected with the organism of Weil's disease.

Weil's disease, which in the severe form is characterized by fever, hemorrhage and jaundice, generally affects fish handlers, coal miners, sewer workers and others who work in rat-infested environments.

While the severe, easily recognized form of the disease occurs infrequently, the authors suggest that mild cases which go undiagnosed are probably numerous. Without laboratory tests to prove the presence of the organism, the mild forms may be mistaken for other diseases, especially influenza, since an acute onset with chills, fever, headache, bloodshot eyes and painful limbs is common.

In five of the authors' patients the disease was mild; it was severe in two, one of whom died. Studies in the two severe cases by isolating the causative organism proved the diagnosis of Weil's disease to be correct. Such studies were not carried out in the mild cases, but all the evidence pointed to such a diagnosis, the authors say.

## Your Child's Sleep

*By the United States Children's Bureau*

**C**HILDREN differ in their need for sleep, even children of the same age. This is to be expected, for every child is a little different from every other one. No two children look exactly alike. One child is taller or shorter than another, even of the same age. Some children need more food than others; some need more sleep. Study your child carefully and try to judge how much sleep he needs.

It is not possible to make exact rules as to how much sleep children need. But a mother, by studying her child, can usually find out something about his individual needs.

Good sleeping habits are best begun in the earliest months of life, for habits learned in babyhood are likely to last into childhood.

In the first few months of life a baby sleeps most of the time, waking only for food. As time passes he stays awake longer and longer. Usually the first waking period of any length is in the afternoon, before the six o'clock feeding. When this waking period has developed, the baby will have a real bedtime.

At a set hour, say six o'clock, after a quiet playtime free from excitement, the baby is fed and otherwise made comfortable, put into bed while he is still awake, and left to go to sleep. The baby who begins to learn about bedtime in this way will associate bedtime with comfort, and will have made a good beginning. If he is put to bed in this pleasant way at the same hour every evening, he will soon be accustomed to going to sleep at that time.

Babies and small children need sleep in the daytime as well as at night, and they will get this sleep best if regular naptimes are established. The baby will

become accustomed to regular naptimes if he is put to bed at the same hours each morning and afternoon.

After the first year the child usually needs but one daily nap—as a rule either before the noon meal or just after it—but keeps an early bedtime.

To help your child keep the good habits of sleep that he learned as a baby, you will want to be sure that nothing interferes with them. If some days the nap is omitted, or if now and then the child is kept up after his regular bedtime to be shown off to visitors or to take part in something the older members of the family are doing, or if you give in when he begs to stay up a little longer at bedtime, he is likely to feel that naptime or bedtime can be put off and to object more and more to going to bed.

As the child grows older he needs less sleep as a rule and may show this by failing to go to sleep promptly at naptime or bedtime or by waking very early in the morning. When this occurs it is usually best to shorten the time that he stays in bed and not let him form the habit of staying in bed wide awake.

Many children take twenty minutes to half an hour to fall asleep. When a child who is not excited or overtired, however, regularly lies awake for a long time after going to bed, even though all is quiet and peaceful around him, it usually means that he no longer needs as much sleep as he has been getting.

Young children need a daytime nap. Their waking hours are spent in amazing activity, and if they go a whole day without a rest period they may become too tired.

A child may not always sleep at naptime. Almost every child up to six or

seven years, however, does better with a midday rest in a well-ventilated room, even if he does not sleep.

When the nap is given up it may be wise to make bedtime half an hour earlier, so that the child can make up for the sleep no longer obtained in the daytime, or to plan a period of quiet play to serve as a rest.

Most children shorten their sleeping hours by gradually shortening the afternoon nap, and therefore need to continue the early bedtime for several years.

Some, however, will take a long afternoon nap daily up to the time when school interferes, and so can shorten their sleeping hours by having a slightly later bedtime.

It is usually better to shorten the nap rather than the night's sleep, for then the child will not have to change his habits when school makes the nap impossible.

Your child's sleeping time should be shortened only as you find that he seems to need less sleep; not just because he is older and supposedly is ready for a later bedtime.

The time at which the little child should go to bed will depend both upon the amount of sleep he seems to need and upon your family schedule. A child who is up for breakfast with the family at six o'clock needs to go to bed earlier than a child of the same age who sleeps until half past seven or eight o'clock.

Breakfast should be early enough in the morning for the child to have time to develop a good appetite for the noon meal. It is best, therefore, to start the night's sleep so early in the evening that the child will waken of himself in time for breakfast.

When the child goes to school he should go to bed early enough for him to be ready to get up at an hour that allows time for washing, dressing, eat-

ing breakfast, brushing the teeth, going to the toilet, and an unhurried trip to school.

If these before-school activities have to be hurried because of a late rising hour, the result may be that some of them are slighted or even omitted. If the child does not take time to eat the good breakfast he needs, the day will be off to a bad start. If a child is unwilling to get up in the morning, he probably is not getting enough sleep and should go to bed earlier.

Boys and girls in their early teens are likely to feel that they are nearly grown up and that they should be allowed a later bedtime. In the teen ages, however, boys and girls need a great deal of sleep. They may object less to the early bedtime if their parents help them plan their time so that they can do their chores and homework and still not be deprived of their recreation.

Signs of insufficient sleep may be difficult to recognize. It is not always easy to judge from a child's behavior whether he is getting the sleep he needs. Children seldom admit that they are tired. More often the tired child will be overactive and easily excited. Such overactivity may make him too tired at night to go to sleep readily, and so again he does not get the rest he needs.

The tired child is often irritable or naughty. His appetite may be poor, or he may not be able to make the best use of the foods he eats, and so may not gain weight as he should. His tired muscles may not be able to hold his body in good posture. A school child may find it difficult to concentrate on his lessons.

If your child shows any of these signs of too little sleep, try giving him a longer rest at night.

It may take a long time, however, for these signs of too little sleep to show plainly enough for you to notice

them, and so you will need other ways of judging whether your child is getting enough sleep. One way is to notice whether he is sleepy in the morning and not ready to get up. Another is to see whether he sleeps more when an earlier bedtime is tried.

If your child seems to be getting insufficient sleep, you will want to help him learn to sleep at regular hours. Select a bedtime which will give him the amount of sleep he seems to need and plan your evening and his so that he can always be in bed at that hour. For such children it is especially helpful if they do not feel that in going to bed at the new hour they are missing some excitement.

If you are not sure whether the bedtime you have selected for your child allows for enough sleep, try an earlier one. Try it for several weeks, until he becomes accustomed to it. If he sleeps longer when going to bed earlier, the earlier bedtime should be continued. If he does not sleep longer, and if there seems to be no other explanation for his not sleeping, such as overtiredness or noisy surroundings, he probably does not need the extra time in bed.

The way in which a child spends his day affects his sleep. Active outdoor play during the day makes for good sleep at night. A child who is wholesomely tired is likely to drop asleep quickly and sleep soundly. But too much excitement during the day may make the child wakeful or restless at night.

Quiet evening recreation is likely to lead to a restful night. Excitement such as that caused by romping or by thrilling radio programs makes it hard for a child to calm down and go to sleep. A story or a quiet game is better; for the older child, a book, or conversation with the family.

Young children should not be taken to shows or other gatherings intended

for older children or grown-ups, especially in the evening. Even for children of school age, movies, parties, and so forth, should be infrequent and should not be planned for the evenings before school days. Such amusements should not interfere with the regular bedtime. For children in their teens some exceptions may be made on the nights before school holidays.

A quiet, comfortable place to sleep helps a child to sleep well. The other members of the family need not go on tiptoe, but there should not be excitement nor talking that will attract his attention and make him feel he is missing something. Each child should have a bed of his own if possible, and preferably a room to himself. The bedroom should be well ventilated, and nightclothes and bedclothes should be such that the child will be neither too warm nor too cool.

Bedtime should be a pleasant time, and it is more likely to be pleasant if you do not interrupt your children's play suddenly. Instead give them a gentle warning that in a few minutes play should be coming to an end because bedtime will soon be here.

Unpleasant associations with going to bed should be avoided. For this reason it is not wise to punish a child by putting him to bed. If your child has fears that make him want not to be left alone, try to help him overcome them; if he is afraid of the dark, you might leave the door ajar and let a little light come in from the next room.

When putting a child to bed the mother should have a calm, pleasant, unhurried manner, and it is well to stay for a minute or two for a little chat before the final good night.

For further advice consult your doctor or write to your state health department or to the Children's Bureau at Washington.

# Malaria (Ague, Chills and Fever)

By BERTILA MAE TURNER  
Sixth Grade, Goldsboro

PEOPLE used to think that malaria was somewhat like fall housecleaning. That is now known to be false. No one need have malaria. The germ is carried by a certain kind of mosquito called *Anopheles*. The people who are protected from this mosquito's bite cannot have the disease.

The *Anopheles* mosquitoes breed in stagnant or slow-moving water most frequently in the Southern states, especially in the Mississippi Valley. Cases also occur along the Atlantic coast from Connecticut south, and in certain spots along the Pacific coast.

The *Anopheles* mosquito sucks blood from a person who has malaria fever or one that has malaria germs. The mosquito then bites a well person. The germs enter the blood, grow and multiply. Poisons are formed and taken to all parts of the body by the blood stream. The second person bitten begins to shiver with chills, then to burn with fever, then to have headache.

The house should be screened properly, and if this is impossible, screen the beds at night. The mosquitoes are worse at night than in the daytime. Stagnant pools should be kept drained. All possible breeding places should be looked after.

The malaria mosquito is quite different from other mosquitoes. When the *Anopheles* mosquito alights on anything it tips up its body so that it is almost standing on its head. The common kind rests with the body flat like a fly.

If a person has only a touch of malaria he should be examined by a physician. The treatment prescribed by the doctor should be followed. It has been shown that the maximum effect of quinine for treatment is secured by taking not more than twenty grains a day for a period of between five to seven days. This is called the short treatment for malaria.

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## Book Review

BROADWAY STOMACH, by Joseph F. Montague, M.D. Simon & Schuster, New York City. 1940, \$2.00.

Under the above title, Dr. Joseph Franklin Montague, of New York City, for twenty years a specialist in the treatment of stomach and intestinal diseases, has recently brought out a new book.

Dr. Montague, by the way, is licensed to practice medicine in North Carolina. He writes in an interesting and attractive manner and all of his books carry information simply and authoritatively presented. The book is for the layman,

but physicians, also, will find much of interest in it. Some of his previous works are entitled, *Troubles We Don't Talk About*, issued in 1927; *Why Bring That Up?* published in 1936, and several others.

Dr. Montague emphasizes a few points in his book which have been driven home in these columns for many years, such as, for example: "It is not always your food that upsets your stomach." Many a baby has been killed because upon the insistence of the parent the doctor has acted on the belief

(Continued on page fourteen)

## Should Not Delay Calling Physician for a Sick Baby

By J. C. KNOX, M.D.

ON March 20th the physicians in that section of North Carolina around Raleigh had the opportunity of hearing Dr. Alexis F. Hartman, Professor of Pediatrics at Washington University, St. Louis, Missouri, who gave a lecture in Raleigh on that date. Doctor Hartman is well known to the medical profession of North Carolina, especially to those who specialize in diseases of children.

In his opening remarks Doctor Hartman assured his audience that he considered North Carolina his "second home." He discussed in a very practical manner some of the more common gastrointestinal diseases of infancy and childhood. He emphasized the importance of keeping the food of children in a strictly fresh and sanitary condition, and further stated that the sudden vomiting spells of diarrhea of a baby, who has been thriving upon a certain food, or formula, should not be construed as an indication that these foods or this formula should be changed, since quite often they are not at fault. Many other conditions may cause these symptoms, notably infections of the nose and throat. Doctor Hartman added that these symptoms often indicated the beginning of some of the childhood diseases.

In this lecture the speaker stressed the importance of an early consultation with a physician, especially for the very young child. The point was discussed that the rapid depletion of body fluids, with the resulting acidosis, requires quite prompt and expert medical care in order to restore the child to normal. Delay in calling a physician

in order to secure this service of course makes the task of the physician much more difficult and the ordeal for the child greater, besides affecting its chances of early recovery from the disease that is developing.

Doctor Hartman emphasized the fact that the custom of giving castor oil or some other type of drastic purgative may cause additional irritation to the intestinal tract rather than serve the purpose which is needed and for which it was intended. He advised that such

*(Continued on page fourteen)*



W. A. WILSON, JR., of Baton Rouge, Louisiana, nephew of Mrs. W. I. Powell, for several years a trusted employee of the State Board of Health. Although living in Louisiana, this boy is being reared according to the literature supplied from our Raleigh office.

## SHOULD NOT DELAY

(Continued from page thirteen)

a procedure not be followed, but rather suggested that the food intake of the patient be limited in order to give the gastrointestinal tract an opportunity to rest, since recovery by such a procedure is greatly enhanced.

It is felt that the physicians of this section of North Carolina were indeed fortunate to have Doctor Hartman, who is quite an eminent physician in his field, visit this State. Those who were able to attend his lecture felt that they had benefitted considerably from his discussion of this very timely subject.

## BOOK REVIEW

(Continued from page twelve)

that the baby's food is disagreeing with it and should be changed. This is frequently far from the truth. The book describes many things that can cause an upset stomach besides the food. Dr. Montague is talking the language of this reviewer always in his ceaseless antagonism to indiscriminate use of cathartics. He describes the indiscriminate and harmful advertising on the billboards of the whole nation, over the radio and in the newspapers of numbers of drugs advertised for indiscriminate use by everybody. He points out that many of these drugs have been definitely labeled by a reliable committee of the American Medical Association as harmful.

Dr. Montague advocates one plan that is new to us but which we enthusiastically endorse, and that is the following: "If every person hurt by a patent medicine filed suit for damages against the laxative firm just as he would if he were hit by an automobile, I am quite sure that these same manufacturers would be infinitely more careful in the claims they make, and

if some public-minded citizen would petition the Post Office Department to place a fraud order on these laxative advertisements as they appear in the magazines and newspapers of the nation, I am sure that all this wanton destruction of people's health would speedily come to a close."—G.M.C.

## Total Deaths From Typhoid Fever and Diphtheria Since Registration Began, Together With Rates.

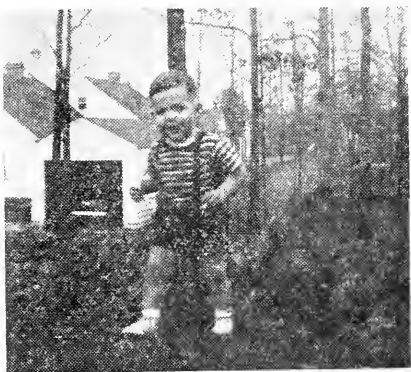
	TYPHOID		DIPHTHERIA	
	Deaths	Rate	Deaths	Rate
1914	839	35.5	371	15.7
1915	744	31.0	525	21.9
1916	700	28.7	418	17.2
1917	726	29.4	308	12.5
1918	549	21.9	251	10.0
1919	427	16.8	271	10.7
1920	322	12.4	299	11.5
1921	307	11.5	372	14.0
1922	299	11.0	510	18.8
1923	267	9.6	331	12.0
1924	270	9.5	323	11.4
1925	277	9.5	310	10.7
1926	270	9.1	263	8.9
1927	226	7.5	378	9.2
1928	185	6.0	355	11.6
1929	164	5.2	324	10.4
1930	152	4.7	275	8.6
1931	155	4.8	230	7.2
1932	150	4.9	165	5.0
1933	128	3.9	218	6.7
1934	89	2.8	207	6.3
1935	84	2.4	164	4.9
1936	72	2.1	192	5.6
1937	75	2.2	167	4.8
1938	72	2.0	173	4.9
1939	48	1.4	170	4.8
1940	39	1.1	119	3.3
Total				
Deaths	7,636		7,689	
Percent Decrease				
in Rates	95%		68%	

## DR. MACNIDER HONORED

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Recently at the meeting of the Association of American Physicians at their convention in Atlantic City, Dr. William deB. MacNider, Kenan research professor of pharmacology in the University of North Carolina and former dean of its medical school, was awarded the George M. Kober medal, which is one of the highest awards in medical science. Dr. MacNider was awarded the medal in recognition of research over a period of thirty years on basic changes responsible for the aging processes in the human body. Dr. MacNider concluded from his exhaustive and extended researches in this field that the fixed tissue cells of the body may be so injured that when they repair themselves they not only continue to function, but in addition acquire resistance to future injury. This award, according to the custom of the organization, was announced last year but the ceremony of presentation is always deferred for one year after the initial announcement. The presentation was made in Atlantic City by Dr. Alfred Newton Richards, vice-president for medical affairs of the University of Pennsylvania. Dr. Richards is a personal friend of Dr. MacNider, having visited him in Chapel Hill a number of times. The late Dr. Kober, an eminent physician and medical investigator, established the medal by a bequest to the American College of Physicians.

All of Dr. MacNider's friends in North Carolina are not surprised at any further honors conferred upon him but all of them take pleasure in his recognition all over the earth.



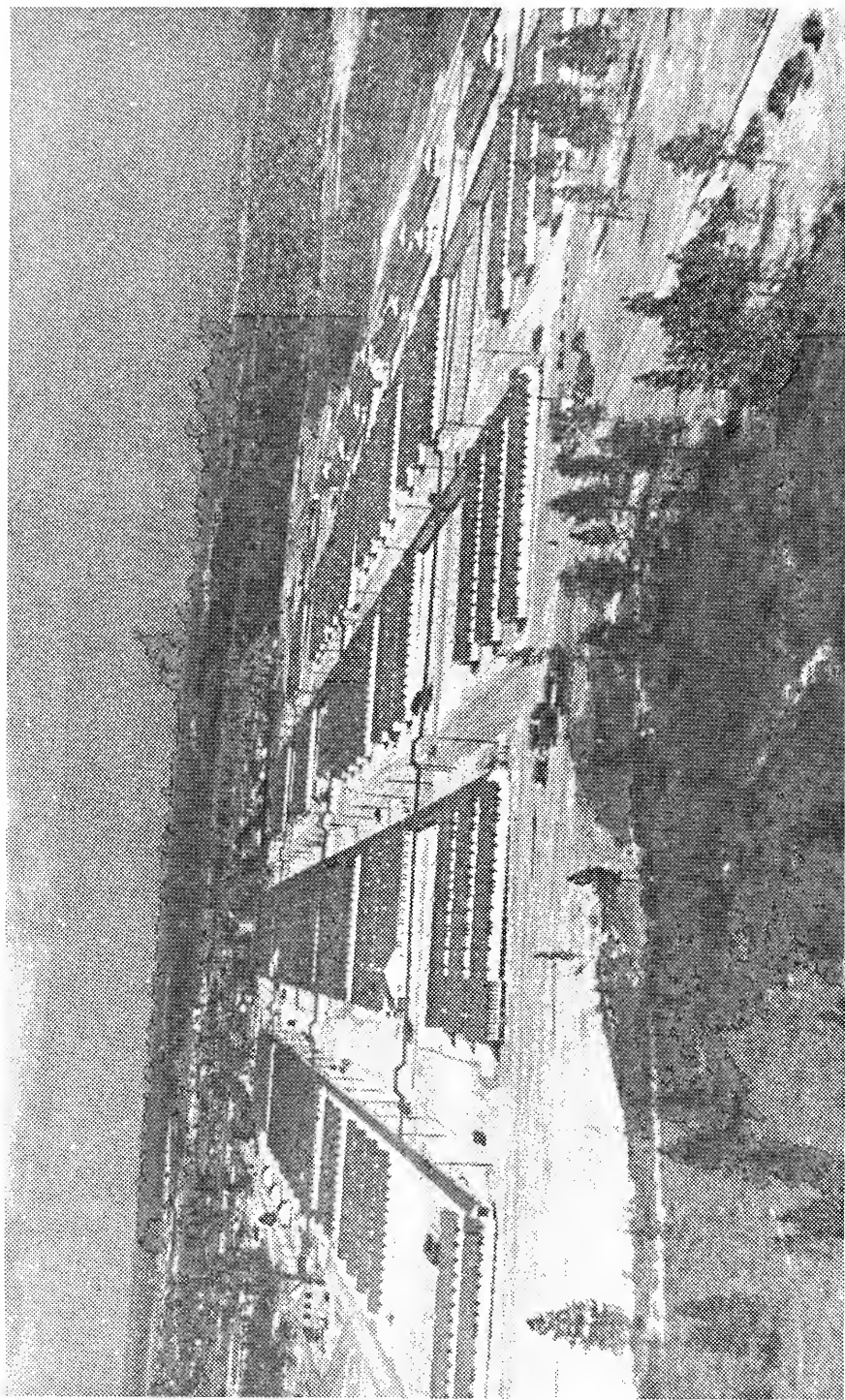
RICHARD FRANK HILL, III

Fourteen-months-old son of Mr. and Mrs. R. F. Hill, Jr. Mr. Hill is one of the engineers in the Division of Sanitary Engineering of the State Board of Health.

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MARY ELIZABETH WILLARD, daughter of Mr. and Mrs. T. P. Willard of Raleigh. Mrs. Willard was Mozelle Goodwin and was a valued employee of the Maternal and Child Health Service Department for several years.



A NEW HOSPITAL AT FORT BRAGG, LARGEST IN THE STATE

This is a picture of one of the new hospitals just completed at Fort Bragg. It has 1,680 beds with a capacity of rapid expansion to



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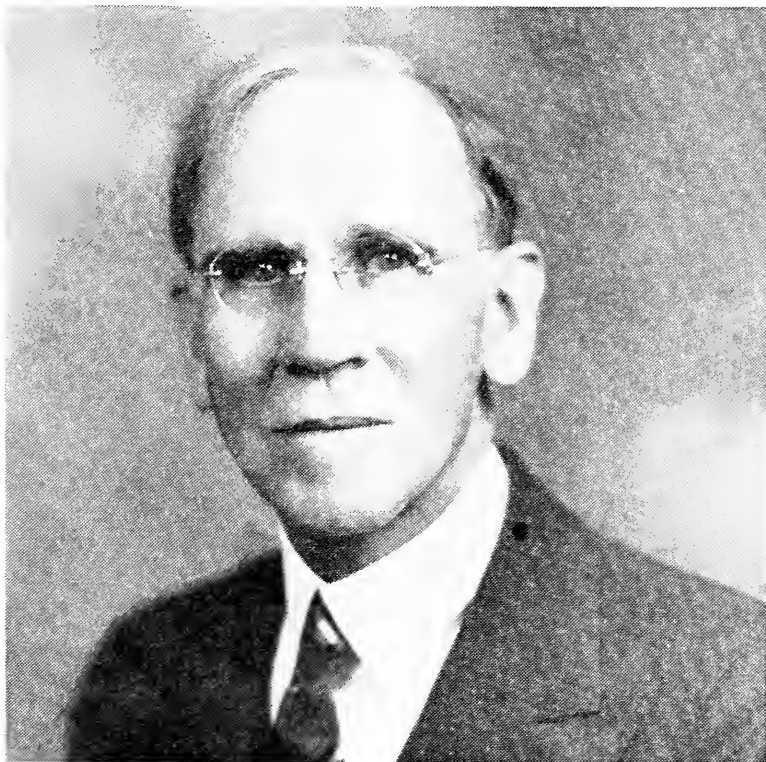
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Vol. 56

JULY, 1941

No. 7

## SAYS WIN THE WAR WITH HEALTH



**DR. CARL V. REYNOLDS**  
North Carolina State Health Officer

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
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Flies	Disposal Plants	Water Supplies
Fly Placards	Sanitary Privies	Whooping Cough

### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months. 2 to 3 years; 3 to 6 years.
Breast Feeding	Instructions for North Carolina Midwives
Infant Care. The Prevention of Infantile Diarrhea	
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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D., *Editor*

## Public Health Picture of North Carolina

A PANORAMIC view of public health activities in North Carolina is afforded in the recent report of Dr. Carl V. Reynolds, State Health Officer, made before the State Board of Health and the North Carolina State Medical Society in conjoint session at Pinehurst.

After briefly summarizing the activities of the Board of Health's various divisions since the spring of 1940, Dr. Reynolds devotes several pages to a discussion of the vital necessity for the health protection of the civilian population during the present emergency. He then sets forth in detail the accomplishments of the Board of Health.

The body of this report is passed on to the estimated 300,000 readers of THE HEALTH BULLETIN, for their information, encouragement and guidance.

### Civilian Protection Essential

In that portion of his report concerning the necessity for the protection of the men, women and children behind the lines, Dr. Reynolds says:

"Today the citizens of the world are in eager excitement as to what may be expected on tomorrow—and well it may behoove us to be up and doing when the devil is stalking the earth in the form of Herr Hitlers—the desperadoes loose and running amuck, destroying the good and replacing it with evil.

"To face this situation and to retain our inherited and constitutional right

to life, liberty and the pursuit of happiness, we are confronted with a problem that we will solve, even if it calls for the supreme sacrifice.

"To meet this crisis, we are better prepared than ever before in our history—yet it is only to take a peep into the picture to see how poorly prepared we really are. There are two major problems confronting us: one, the proper selection—medical and surgical care, feeding, housing, clothing and equipping the selected service group for military and navy training. Two, the same protection for our civilian population. Hundreds of millions are being expended in preparation for the selective draft group, and properly so, but to date it has been considered the responsibility of the local communities to prepare for the civilians.

"To my mind, this is a job poorly done and it is high time that this unstable situation be recognized and steps be taken immediately to correct it.

"When we think in terms of modern warfare, we must think of the civilian population for it is they who are attacked and destroyed hundreds of miles behind the firing line.

"If we are to learn anything from the devastating effects of the new and barbaric instruments of warfare dealing death to the innocent and unarmed and the destruction of churches, hos-

pitals, homes, public buildings that are housing treasures of centuries and industries of all types, we must realize that we have an individual, as well as collective responsibility in this preparedness program.

"The principal concern seems to be the destruction of industries, the supply bases, and the morale of the citizens behind the line rather than attacking the armed forces.

### What Price Defense?

"It has been asked 'what price defense? Money, raw materials, manpower—and the greatest of these is manpower.'

"Our national resources are almost unlimited but they cannot be translated into ships, tanks, guns, and mechanical equipment without physically fit manpower. If this is true, then we must think first of manpower, and his health is the basic element of his moral, mental and physical well-being, and his moral courage and determination to carry on, will depend upon his physical fitness.

"I say we are really better prepared than ever before due to various organizations set up at the present time to cope with the situation through additional funds and trained personnel. During normal times we were progressing slowly but profitably in our generalized health program. During the past year many complications have arisen that will tax all of our resources and ingenuity to cope with the situation, administratively and professionally. Some of us doubted the wisdom of expending the vast sums coming out of the Social Security Act and Federal participation in supplementing state and local funds for health purposes.

"How insignificant this sum was to meet the needs when we think of the tasks ahead of us. How fortunate it was, too, that funds became available

through the Venereal Disease Control Act, and how fortunate we in North Carolina were to have the appropriation so generously given for the cure and control of syphilis by the Reynolds Foundation. Federal, state and local philanthropic participation gave us a dynamic combination that has enabled us to have a sound basic organization upon which to build adequate organizations to compete with the potential, if not real dangers just ahead. Maternal and child welfare is essential, for the child of today is the man of tomorrow.

"Today, the army and navy, through the Selective Service Board, are taking 1,400,000 of our physically fit young men for mobilization purposes, but they are rejecting 40 percent as unfit for military duty and 13 percent as unfit physically.

"There has been a Health and Medical Committee set up by the Council of National Defense made up of members of the AMA, Physicians of Medical Science of the National Research Council, the Surgeon General of the Army and Navy, and the U. S. Public Health Service, for the purpose of coordinating the health and medical programs, and now in the hands of the Federal Security Agency, with the above committee to finance and assist the administration.

"We all realize this is a gigantic undertaking but there is a real emergency facing us that may become of vast proportions if something is not done promptly, not by conferences—but by actions.

### Fitness a Basic Necessity

"The manpower within the army and navy must come from our morally, mentally and physically sound, but something must be done to place that rejected 40 percent that are reparable into a healthy condition, to replace those in service, and to fill their places

in civil life. The military may be responsible for the selection and care of the soldier. Yes—but there is an equal responsibility for industrial mobilization so imperative and essential in our preparedness program.

"In supplying the needs of the military, the vacancies in civil and industrial life are filled by inexperienced, younger and older groups of men and women, and this exchange from experienced to inexperienced personnel bring about increased hazards and added responsibilities.

"This brings to mind the need for industrial hygiene expansion which calls for increased and well-trained personnel due to this acute situation.

"A real serious problem confronting us is around the army and navy bases during the construction period. At each base, so far in North Carolina—16,000, or more—think of it—proceed to these construction areas where there is no water, sewage or housing facilities, not even food available. Such a situation is inconceivable unless you visit the area and see it first hand.

"To correct this primitive, insanitary mode of living, is taxing the local and State health authorities beyond their capacity and it is, and has been, a Federal, State and local obligation to its citizens that has been sorely and woefully neglected.

"There are 56 bills now before Congress for health activities, but the bill that will aid in correcting this interest in the health of this group of citizens should be declared an emergency, and funds made available immediately for medical, surgical, sewage, water, malaria, and housing protection.

"Adequate facilities are being had for food, housing, hospitalization and medical care, sewage, water and malaria protection of the soldiers within the cantonment. In preparation for the

soldiers coming, the construction crew and their families and citizens seeking jobs and those venturing in business enterprises, 20,000 or more at each base, have no protection save the sky above and the earth below. This condition does exist, and hazardous health conditions are arising far beyond the local communities' ability to cope with. We must do something about it before we are confronted with a catastrophe. We must insist upon the immediate passage of the bill now pending and above referred to, carrying funds to meet this situation as has been done within the cantonment areas. All over the State industrial plants should set up health control measures for their employees.

### Proper Balance Necessary

"The race in the preparedness program is unbalancing our entire economic structure. Over seven or eight thousand reserve medical officers for each of the next five years have, and will place added responsibility to our service, but just as essential is the care of the civilian army.

"It was learned in Washington last week that there were 60 or 75 critical defense areas where shortage of facilities now exists. Serious shortage in maternity and child health facilities and in medical and nursing personnel available to mothers and children exist in many of these defense areas. Between the years of 1934 and 1939 maternal mortality declined 32 percent; infant mortality 20 percent and stillbirths 12 percent. We must not lose our gains.

"We must destroy the bigoted devils that are running amuck in this world today—they speak a various language; they appear before us as false prophets and in many forms. To do this we must have sound minds and sound bodies in our military and civilian population. That's our job. We will not fail."

### General Health Picture

Then, in presenting the picture of what public health is aiming at and has accomplished during the past year, the State health officers cite these facts:

#### Division of Preventive Medicine

"This brief summary of the principal endeavors put forth in this department this year is submitted in the hope that it will be helpful to you in the preparation of your annual report to the Conjoint Session of the North Carolina State Board of Health and the Medical Society of the State of North Carolina. This division, as you know, has lost some of its personnel to the Coördinating Health Unit during the current year, five nurses having been assigned directly to that division. Of the remaining three, Miss Buchan continues to perform highly efficient and satisfactory service as supervisor in the Northampton demonstration work. The remaining two have been busy in miscellaneous activities in necessary work for the division.

"The Northampton work has proved to be highly successful in every way. The nurses are worked extremely hard, being on duty 24 hours in the day and only having one week-end out of each month for rest. Most of them have stayed with the project, however, and are rendering loyal and satisfactory service. The demonstration work in Polk County has only recently become fully organized and is now getting under way properly. The trouble there for 18 months has been the changes in health officers and the failure to obtain a satisfactory nurse for the work. The two township demonstrations to be used in part as a training ground for the University of North Carolina School of Public Health, has recently been inaugurated in Person County. We hope

that this will be as satisfactory as the others. It should be even more so because the personnel is better paid and having a district health officer as well as a local assistant in the county should make for a much easier program. For the most part, the doctors in all three counties are coöperating very closely. The chief difficulty in the demonstration work is the cost. If it can be proved that the cost is within reasonable bounds so that the counties will eventually support it with State and Federal help, it will mean much to the poorer people in all of these sections.

"The work of health education as always has been pressing in this division. Owing to demands from the field, THE HEALTH BULLETIN mailing list has been increased during the year from the 54,000 a year to 63,000 copies each month at present, which is barely sufficient to supply the demand. The editorial work as well as the supervision of special pamphlets is exacting as always. *I should like to note in passing that the special literature of the North Carolina State Board of Health has been accepted in practically every other state as setting a standard of high quality, judged by professional health educators in other states.* By the close of the current fiscal year, free toxoid will have been provided from this department to physicians and health officers to immunize more than 58,000 children and babies, giving each baby one dose. On a two-dose basis, it would be sufficient, of course, for the complete immunization of more than 29,000. During the year, classes were held and individual examinations were made of every midwife in all outside counties. Nurses from this division were called upon to help supervise midwife work in several of the whole-time health officer counties. Silver nitrate continues to be distributed free of charge as required by law to all physi-

cians, hospitals and midwives who want it. In addition to the distribution of 63,000 copies of THE HEALTH BULLETIN monthly, the section of health education in this division has distributed more than two million pieces of special literature.

### Work in Maternal and Infancy Clinics

"One year ago, we reported the establishment of 175 maternity and infancy clinics or centers in 52 counties. At this time this number has been increased to 234, extending fairly well over 64 counties. The standard of work done in these centers has been improved in many cases a great deal. In this work about 200 practicing physicians have been aiding the health officers in this work. These physicians have been paid an honorarium which varies according to needs in different counties. It is small but has been appreciated by most of the physicians receiving it. There have been to these clinics more than 28,368 infant visits and more than 15,293 expectant mothers for examination and advice.

"The most significant and outstanding piece of new work that has been inaugurated by this division is the addition of a pediatrician, Dr. Robert B. Lawson, and an obstetrician, Dr. A. Watts Makepeace, to the consultant staff of this division. Both have been assigned to teaching courses in the Public Health School at the University of North Carolina and have been accepted as full faculty members during the period by that institution. Of more interest and importance to the medical profession is the experiment in postgraduate work undertaken and now under way at Duke Hospital and Medical School by these two aforementioned specialists. This work at Duke Hospital is a coöperative enterprise between the Division of Preventive Medicine and the State Board of Health, the North Caro-

lina State Medical Society and the Duke University Medical School and Hospital. All agencies have fully and closely co-operated in order to make this work possible. Using funds supplied by the United States Children's Bureau under the Social Security Law, we are enabled to provide intensive postgraduate courses in obstetrics and pediatrics for a five-day period each week in the Duke Hospital and Medical School. All of the clinical facilities of the medical school have been opened to us. Six physicians are given this free course each week. Their room and board is paid for by this division and reports so far from those who have attended the course are enthusiastic as to its practical value. Already more than ninety applications from physicians, including a few health officers, have been received and accepted for this course. It is probably the most generous and practical provision for aiding practicing physicians ever before undertaken in this State, and I herewith close these remarks with the statement that we are intensely proud of being able to provide this course, and we are even more grateful to the officials in the North Carolina Medical Society and the officials of Duke University Medical School and Hospital for their valuable aid in this work.

### Crippled Children's Service

"This report marks the fifth year since the inauguration of the State Plan of Service for Crippled Children which has provided for the coördination and extension of medical services to indigent crippled children. The plan originated as a feature of the Federal Social Security Act and as the means of coöperation with the U. S. Children's Bureau, which agency administers the Federal fund and approves grants to states for the purpose of extending its services to crippled children. The purposes of the plan are: to locate crippled

children between the ages of birth and 21 years; to register these after providing a medical diagnosis and classification, and to provide treatment designed to reclaim the child's physical ability so far as possible.

*"Locating Services:* There was steady progress in locating crippled children during the period covered by this report. The register as of January 1, 1941, indicated the number registered was 17,667, a 15 percent increase over January 1, 1940.

*"Diagnostic Services:* Twenty-two clinic facilities are available for the examination and diagnostic classification of indigent persons in need of orthopaedic examination or consultation. Sessions are conducted at least monthly at these centers, located strategically throughout the State. There were 308 sessions conducted, during the period reported, at which 11,531 examinations were made. These examinations represented 4,038 first admissions of children within the period and 7,493 return visits of children. Eleven qualified orthopaedic surgeons participated in these services, aided by staff workers of the State agency, local health officers, nurses and social workers. The diagnostic service is available to all ages of orthopaedic crippled.

*"Treatment Services:* Treatment of children for whom there is indication is provided through the following facilities: (1) clinics, where preoperative and postoperative medical attention is given by the physicians and nurses. Much cast work is performed and numbers of minor deformities are corrected not requiring institutional care and expense; (2) State Orthopaedic Hospital, the capacity of which is 160 beds, but limited to children under 16 years of age; (3) selected general hospitals (20); (4) approved convalescent homes, of which there is one with a capacity of

20 children; (5) boarding homes, of which one is approved for the care of four children, and (6) supervised care and treatment in the child's own home under the direction of the physician with the aid of the State agency staff workers and local public health nurses. The clinics provide for much of the postoperative surgical care and treatment following discharge from the hospital and, through the clinics, persistent oversight of the corrected conditions of the children is maintained in many instances for years following treatment.

"At the beginning of the period covered by this report there were 177 children under care in hospitals and during the period 1,475 others were admitted, or a total of 1,652 children for whom care was provided during the year. Of this total 36.5 percent were admitted to the State Orthopaedic Hospital and 63.5 percent were provided for in selected general hospitals. Of the total children admitted to hospitals for care during the year, 1,470 were treated and discharged and 182 remained under treatment at the close of the period. Hospital care represented 78,546 bed days of which 25 percent was provided through general hospitals. Treatment of children in hospitals (1,600 in round numbers), compared to treatment on clinic admission, indicates that approximately 14 percent of the children admitted to clinics were treated in hospitals, whereas 86 percent were treated in the clinics and in their homes under supervision of the clinics.

*"Follow-up Services:* Aside from the value of supervision provided by the clinics, the State agency carries on follow-up services through two levels of workers—especially trained staff workers and supervised local public health nurses. Through its staff the State agency rendered supervisory serv-

ices to 3,244 admissions of children to this service and carried out 4,246 field and office visits in the process as well as rendering 6,359 minor services to children on visits to clinics and centers.

"The above résumé of services provided to crippled children in North Carolina during the period since this report was last made, indicates that satisfactory progress has attended the efforts of every one in this coöperative enterprise and that crippled children's needs are being more fully met than ever before. However, it should be said that there remains much to be done and that we must persist in our efforts to fully meet the needs of those for whom there are not adequate resources and further to improve the services which are now rendered with limitation as to adequacy. Continued progress will be in ratio to the support which all of the people give to those interested and active in this type of service.

#### Division of County Health Work

"With the beginning of the new fiscal year 1940-41, the following five counties organized full-time health services; and July 1, 1940—Gates County joined with Hertford County, forming a district health department; Lincoln County was added to Catawba County in district health service; Rockingham County established a full-time health unit of its own.

"January 1, 1941—Onslow and Pender counties organized a district health department in the defense area.

"With the inauguration of these health services, full-time health service is now operative in 81 of the 100 counties in North Carolina and full-time health service has been maintained in the six city health departments as well. To this date, there are 63 full-time local health departments in North Carolina;

42 of which are county health departments, 15 district health departments, and six city health departments. Health service is provided in 39 counties by the 15 district health departments, the size of these districts varying from two to five counties for each department.

"There are employed at the present time in the 81 county and five city health departments (exception, Winston-Salem), a total of 667 full-time workers. Of this number, 62 are health officers, ten are assistant health officers, 15 are epidemiologists, and five are dentists. There are 17 supervisory nurses, one assistant supervisory nurse, and 279 staff nurses; eight engineers are employed, ten veterinarians, and 36 are classified as sanitarians, 68 as sanitary officers, and ten as follow-up workers; other personnel consists of 20 laboratory technicians and 126 clerks. The departments not employing full-time dentists have been provided with oral hygiene programs by the Division of Oral Hygiene of the North Carolina State Board of Health totaling 1,322 weeks of dental service.

"Since July 1, 1940, there have been trained or are now in training, six health officers, 29 public health nurses, three sanitary engineers, 12 sanitarians, and two laboratory technicians, or a total of 52 trainees. The training of these persons has been made possible through funds provided from Social Security, Reynolds Foundation, or Federal Venereal Disease funds. This personnel has been trained in the School of Public Health at the University of North Carolina, Columbia University, University of Pennsylvania, University of Michigan, George Peabody College, College of William and Mary, Medical College of Virginia, Johns Hopkins University, and Vanderbilt University. All new field personnel have been trained in the field-training centers in the

Orange-Person-Chatham District Health Department and the Durham City-County Health Department and, in addition to these, the Forsyth County Health Department and the Wake County Health Department have been used for field training of nursing personnel.

"On October 1, 1940, Miss Theodosia Flud, formerly supervisory nurse in Cumberland County, was employed as assistant consultant nurse with us. This constituted an additional consultant in public health nursing and has enabled us to give a more effective service in this connection.

"Our budget blanks and financial report forms were revised to more nearly conform with the Public Health Service Budget for State and Local Health Projects and these new forms were put into use effective as of July 1, 1940.

"Each local health department has been requested to submit, before the beginning of the new fiscal year, an annual plan of their work, outlining the methods now in use on their various programs and also indicating as to how the service in their respective programs may be changed or expanded to advantage. This constitutes a method of each health unit taking stock of its activities and making any changes they may deem necessary by the beginning of a new fiscal year.

"A consolidation of the field visits made by members of the staff of the Division of County Health Work, rendering consultative and advisory services in the interest of health work, during the period January 1, 1940, to December 31, 1940, reveals the following: Ninety-nine visits made by the director to counties having full-time health service; 102 visits made by the consultant in public health administration; consultant engineer, 135 visits; consultant nurses, 206 visits, and field representatives, 96 visits; giving a total

of 638 visits made by the director and consultants in the Division of County Health Work during the calendar year 1940.

### Division of Epidemiology

"During the year covered in this report the activities of this division have continued to expand. The *Central Tabulating Unit* operating under this division, has made considerable progress in the second year of its existence. (A brief résumé of its work shows that it has tabulated and issued monthly venereal disease reports, weekly and monthly communicable disease reports, quarterly county health reports, and annual morbidity reports for the calendar year 1940.) Procedures have been developed whereby the State Laboratory of Hygiene may receive statistical service from this unit. This service will be in the form of monthly and annual reports on all serologic tests performed by the laboratory. It has been estimated, on the basis of figures covering six months, that in an estimated 12 months a total of 25,000,000 cards were processed in this unit, or about 2,500 cards for each machine hour. New admissions to the clinics during this year totaled 28,420. On March 31, 1940, just prior to the beginning of this report year, the active case load in the clinics was 35,835. The statistical work created by the expansion of these syphilis clinic activities has added considerably to the heavy work load of this unit.

"*The Malaria Investigation and Control Unit* of this division during this report year continued making county-wide, detailed surveys in counties known to be malarious. On these surveys blood smears were made from all school children through the first six grades. The home of each child with a positive slide is located with a symbol on a large county map. In the focal areas thus

established detailed surveys and investigations are made and a map prepared which shows all houses, bodies of water, streams and other pertinent data. Different symbols are used to distinguish homes with malaria and to show the means by which the existence of malaria was established, such as blood slides, malaria histories and information given by practicing physicians. Breeding places of malaria mosquitoes are shown on the maps after investigations are made. During this year 10,195 blood slides were taken and 15,583 slides were examined by the laboratory technicians. Educational work has been carried on by talks in schools, before civic, governmental and other groups, by radio talks, published articles, motion pictures, exhibits at county fairs, and by the distribution of literature. Before granting permits to impound waters inspections have been made and the local health departments have been assisted in the supervision of control programs on waters that were previously impounded.

"The hydroelectric companies conducting malaria control programs are working under the supervision of the Malaria Investigation and Control Unit. An effort is made to visit each lake several times during the mosquito-breeding season to determine the efficiency of the program.

"During the year the Rockefeller Foundation has given equipment for ditch lining to the Division of Epidemiology. Records are to be kept in the areas where ditch lining is installed in order to obtain accurate data on malaria mosquito abatement.

"The military authorities at Camp Davis and at Fort Bragg are progressing with their antimosquito work. In this work this unit assists in a super-

visory capacity. The army units investigating proposed camp sites have called on this division for several detailed investigations. In this work estimates for cost of drainage were made along with malaria surveys.

"The personnel of the *Veneral Disease Control Unit* has remained the same during this report year. In the field, however, full-time health departments for several counties have been established. This has necessitated increased activities on the part of this unit. During this period an epidemiological investigation unit was established from funds received from the Reynolds Foundation, the Rockefeller Foundation, and the U. S. Public Health Service. The unit thus established is to carry on investigations similar to the epidemiology in Orange, Person, Chatham and Durham counties in connection with the work being done at the School of Public Health at the University of North Carolina.

"During this report year the number of clinics in the State treating the venereal diseases, operated in connection with the local health departments, has increased from 223 last report year to 290 on April 1, 1941. During this report year \*28,420 new cases of syphilis have been admitted to the clinics as compared with 15,515 new cases during the preceding report year. During the report year just closed 1,803,874 treatments have been given these syphilis patients, as compared with 609,808 treatments given during the preceding report year. These activities show a slight increase over the previous year, due presumably to the addition of new clinics and also to better follow-up work having been done.

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\*The term "new cases of syphilis" does not mean newly acquired but new admissions to the clinics, which includes primary, secondary, latent and late syphilis.

"The equipment in practically all of the clinics is now up to standard and will compare favorably with that used in the better class of public clinics in the larger cities. Fifty combination dark-field and general-purpose microscopes have been distributed to the counties and 29 fluoroscopes are now available in the larger centers. We have continued to furnish free drugs to any physician in the State who desires them and will request them on the usual form. During this year the total value of these drugs was \$6,762.43 as compared with the sum of \$5,653.52 spent during the preceding year, or since the procedure was instituted on July 1, 1939.

"During the past year much time and effort has been spent on activities connected with the national defense program. An entirely new district health department has been established in Onslow and Pender counties, adjacent to Camp Davis. Also, increased activities have had to be carried on in the Fayetteville and Wilmington areas because of the presence of troops and defense workers.

"In October, 1940, a serologic survey was made on all registrants who submitted to a blood test. A tentative tabulation of survey results shows that approximately 136,417 registrants were tested. The results showed approximately 1,463 positives, 712 doubtful and 890 unsatisfactory for the white race; approximately 10,005 positives, 1,694 doubtful and 807 unsatisfactory for the Negro race. Of the specimens tested approximately 11,550 were positive, 2,424 doubtful and 1,700 unsatisfactory; these figures were for all races. It is desired to stress again the fact that these are tentative, not final, figures for these survey results. It is desired, also, to point out that these are results for only one blood test on these men. At

the present time most of the counties are engaged in rechecking the original tests. A great many new cases of syphilis have been added to our clinic rolls as a result of this survey.

"The tabulation of the syphilis-malaria survey of the Onslow County Negro population has been completed. This shows a total of 9.9 percent of the Negro population had positive serologic tests for syphilis. Of this group 3.1 percent had demonstrable malaria parasites in their blood. Practically all of these were of the æstivo-autumnal type. Additional data were obtained which furnishes valuable information on the relationship of malaria to positive serologic tests for syphilis.

"It is believed that the continued operation of the premarital examination law and the prenatal serologic test law in this State will decrease the amount of congenital syphilis as well as the number of new cases of early syphilis. Both laws seem to be well received by the public and are of invaluable aid to this cause.

At the beginning of this report year an *Endemic Typhus Fever Control Unit* was established in this division, with a consultant engineer employed to devote his full time to this work. Statistical studies were made of this problem and the focal areas established. Studies were made, also, of the control programs being conducted by other states in order to plan the most suitable program for North Carolina. At first, the activities of this unit were devoted primarily to the promotion, planning and supervision of community-wide rat extermination programs through the use of poison. This was accompanied by community-wide clean-up campaigns and the improvement of community, garbage-collection and garbage-disposal systems. Kiln-dried red squill of known toxicity, which was ob-

tained from the U. S. Fish and Wildlife Service, was used as a raticide.

"During this period the unit has co-operated with county health departments and the U. S. Fish and Wildlife Service in conducting 22 community-wide eradication programs. A total of 11,068 business buildings, private residences and premises was treated and a total of 11,916 pounds of poisoned bait was distributed at a total cost of \$2,452.62. Forty-three sanitarians from 28 local health departments participated in these programs and received training in this phase of typhus control. The results of these programs indicate that mass poisoning is an excellent rat eradication measure, but is not an effective typhus control measure unless repeated at periodic intervals, preferably twice a year. For this reason, the unit is now recommending to local health departments a program based primarily on breaking down the close association between rats and man by means of the installation of a modified form of ratproofing known as vent stoppage, to the business buildings in endemic areas. As part of this program efforts are made to eliminate rat harborage throughout the community, to improve the community garbage-collection and garbage-disposal system, and to secure the adoption of ratproofing ordinances to apply to all future construction. Recommendations to local communities are based upon epidemiological investigations to determine the areas to which vent stoppage should be applied, and, upon complete surveys of the buildings in these areas to determine the materials required and the cost of the program. Studies of this nature are now being made in two communities. Local health departments are being encouraged to include rodent control activities as part of their general sanitation program. The unit has assisted 12 departments to formulate pro-

grams of this type. One city health department has recently assigned a full-time man to supervise their rodent control program.

"Educational activities, by means of lectures, motion pictures, newspaper articles, and radio talks, have been carried on continuously since the unit was created. Thirty-three lectures, accompanied by motion pictures, were given before a combined audience of 2,834 persons. In January, 1941, a typhus control seminar, covering a two-day period, was conducted at the Public Health School, University of North Carolina, as part of the field training course given sanitarians. Educational material on ratproofing and rat control was furnished numerous individuals.

"In the 1940 outbreak of typhus fever in Siler City, in which 26 cases occurred among the employees of a feed mill, this unit coöperated with the Orange-Person-Chatham District Health Department in initiating emergency control measures and in preparing recommendations for ratproofing and other permanent control measures.

"During the year epidemiological investigations were made to determine the source of 33 individual cases of endemic typhus fever. Also, 21 buildings were surveyed for rat infestation and recommendations prepared for ratproofing these buildings.

"In addition to the special activities described in the unit reports for this division, a considerable amount of routine work was carried on during this report year. A volume of correspondence not relating to any of the above described unit activities, yet in the field of communicable disease control, was handled by this office. By newspaper articles, lectures by the director, pamphlet material, information oral and written, this division has rendered service during the past year to an increas-

ing number of persons in the State and, upon request, to those in other states whose inquiries were pertinent to the work of this division.

### Division of Laboratory of Hygiene

"The State Laboratory of Hygiene has made considerable progress during the past year in adapting its activities to its new plant, the completion of which we recounted in the 1940 report to this session.

"During this transition period we have experienced numerous unexpected difficulties, but on the whole there has been no more confusion than should reasonably have been anticipated.

"Numerous improvements have been made both in the methods of examining specimens and the nature of biological products distributed. An improved whooping cough vaccine has been made available. In the preparation of this product the most recent information available has been embodied. It is our opinion that this improved Pertussis vaccine, when used as recommended, will do much to reduce the death rate from whooping cough in North Carolina.

"We have adopted the Semple method of preparing our antirabic vaccine. To date more than 1,000 complete treatments have been distributed with no record of failure to protect nor accident of treatment. Those of the profession who have communicated with us are pleased with this product.

"Breeding colonies of guinea pigs and rabbits have been set up in the new small animal buildings on the Laboratory Farm. These colonies have developed rapidly and satisfactorily. On the farm we have also been successful in producing most of the feeds required by the laboratory animals.

"The regular work of the laboratory has continued to increase. During 1940 the laboratory made 575,981 examina-

tions of specimens as compared with 463,024 similar examinations in 1939. Routine serological tests for syphilis continue to contribute the greatest number of examinations. Excluding surveys and special studies, 405,713 serological tests for syphilis were performed in 1940 as contrasted with 370,959 in 1939.

"During the year the laboratory participated in two dramatic activities. The first of these chronologically was the distribution of typhoid vaccine to those of our citizens affected by the floods which occurred in August. Sufficient typhoid vaccine to immunize 100,000 people was distributed to the counties affected by the flood during the months of August and September. The preparation of this vaccine for distribution necessitated a considerable amount of overtime duty and the recruiting of volunteer assistants to the group preparing bacterial vaccine. The small incidence of typhoid attributable to the flood can, in our opinion, be attributed to heroic efforts of local health workers, physicians and members of the staff of the State Board of Health.

"The serological survey of draft registrants was in many respects most unusual. Preliminary preparation for this work was limited to a few short weeks, since the decision to conduct the survey was not made until late in September. As originally planned, it was anticipated that approximately 75,000 specimens would be obtained from draft registrants and that about 25,000 specimens would be secured from men actually called for selective service. The preparation of 100,000 additional specimen containers seemed to be an almost insurmountable task, since there was a definite shortage both in glass tubes and blood-letting needles. The purchase of additional equipment taxed the ingenuity of the well-trained purchasing agent. Fortunately, the NYA

and WPA assigned some 15 additional workers who were rapidly trained to fill in with the permanent personnel of the laboratory, and thereby effected an efficient working unit which was able to prepare and distribute more than 100,000 specimen containers in a period of two weeks. Early on October 16th it became apparent that the 100,000 specimen containers distributed would be insufficient to hold the specimens from all the draft registrants who volunteered to submit them. Additional containers were rushed by special messengers to different parts of the State.

"Altogether, 136,417 specimens were taken and submitted to laboratories for examination. Of this number 1,700 were unsatisfactory for test, leaving 134,717 specimens that were examined and for which reports were submitted. The laboratory was simply overwhelmed. The personnel in our serological group was increased from 10 to 32. Even then it was necessary to call for assistance. Eight laboratories in North Carolina and the laboratory of Dr. Harry Eagle in Baltimore assisted in examining the specimens. All laboratories reported directly through the Division of Epidemiology and in turn reports were relayed to the U. S. Public Health Service. The State Laboratory of Hygiene, however, examined 92,000 of these specimens. Serum was separated from clots as rapidly as possible and the sera sent to a freezer locker for storage until such time as the specimens could be examined. The last of these were examined on December 18th. As nearly as we could tell by observation the stored sera were in satisfactory condition for examination.

"Of the 134,717 reports on specimens, 76,149 were from white persons. Of these 1,463 were reported as positive or 1.92 percent; 57,137 were from Negro men, of which 10,005 or 17.5 percent were reported positive. There were 1,431 reports from Indian men, of which

82 were positive or 5.7 percent. The grand total for the 134,717 was 11,550 or 8.5 percent positive reactions.

"The principal handicap in the development of the laboratory is now, as always, lack of sufficient funds with which to employ additional personnel and purchase new equipment. We wish to make every effort to increase the services of the laboratory. We appreciate suggestions that will be helpful. We welcome frank and honest criticism. We have a loyal and enthusiastic staff, who are anxious to render to the best of their ability the services which the State needs.

### Immunization Policy

#### *"Optimal Age for Immunization:*

"Smallpox vaccine should be administered before the infant is *three months* old. Reactions, contaminations and complications are less frequent at this early age.

"Whooping Cough—At the age of *four months* infants should be inoculated at weekly intervals with four doses of an improved whooping cough vaccine.

"Diphtheria—Children *nine months* old should be protected against diphtheria with two doses of Alum Precipitated Diphtheria Toxoid or three doses of Diphtheria Toxoid—Ramon, administered at intervals of four weeks to one month.

"Typhoid Fever—At one year of age children should be given three doses of typhoid vaccine. This should be reinforced each year by an additional dose of typhoid vaccine.

"If for any reason immunization procedures are not attempted at the optimal age, it is well to remember that it is usually better to be late than never.

"Method of reinforcing immunity will be outlined in connection with recommendations concerning the individual products.

*"Diphtheria Immunizing Procedures Recommended:*

"1. Preferably at the age of *nine months*, certainly before children enter school, they should be protected against diphtheria by (a) two doses of diphtheria toxoid, alum precipitated, with a 4-week or 1-month interval between doses, or (b) three doses of diphtheria toxoid at 4-week or 1-month intervals.

"2. In communities where it is impracticable to give two doses of diphtheria toxoid, alum precipitated, or three doses of diphtheria toxoid (1a or b), to all the children between nine months and ten years of age, it will probably be found that the giving of one dose of diphtheria toxoid, alum precipitated, to a large number of children of this age group is more effective in preventing diphtheria in the community than the use of the two or three doses (1a or b) for half as many children.

"3. To those children receiving one injection of diphtheria toxoid, alum precipitated, a single reinforcing dose of not more than one half the usual dose of an equivalent diphtheria toxoid, alum precipitated, preparation should be given to each child inoculated in infancy, just prior to the child's entering school at five or six years of age, or three to five years after the initial inoculation if this has been carried out at some time later than the first year of life.

"4. Routine Schick test six months after the completion of inoculation in infants is desirable in private practice and whenever the personnel and conditions of access to patients at public clinics make this additional contact practicable.

"5. (a) Children of ten years of age or over who are known to be susceptible as the result of the Schick test should receive three doses of diphtheria toxoid at 4-week or 1-month intervals or equivalent doses of toxin-antitoxin sim-

ilarly spaced. (b) For susceptible adults who may be exposed by occupation to contact with the clinical or carrier stage of diphtheria, the use of diphtheria toxoid, alum precipitated, is not recommended. In the case of adults with occupational hazards (e.g., physicians, nurses, attendants in hospitals for communicable diseases, we suggest:

"(1) A Schick test.

"(2) A Moloney test on Schick positive individuals; that is, an intracutaneous injection of 1/10 cc of a 1-100 dilution of Diphtheria Toxoid—Ramon. Moloney tests are read in the same manner as Schick test and tuberculin test.

"(3) Give the Moloney negative and Moloney one plus reactors 2-1 cc doses of Diphtheria Toxoid—Ramon, subcutaneously at intervals of one month.

"(4) Give the Moloney two and three plus reactors 3-intracutaneous injections of 1/10 cc each of a 1-100 dilution of Diphtheria Toxoid—Ramon at intervals of one week.

"(5) Perform Schick test six months after last inoculation.

"(6) If any of the Moloney two or three plus subjects remain Schick positive, repeat the procedure outlined above.

"The immunity produced by the administration of diphtheria toxoid is probably highest three or four months after the completion of the inoculations. It gradually decreases unless additional stimulation occurs.

*"Typhoid Immunization:*

"1. Initial administration of typhoid vaccine should be in three doses administered at intervals of one week.

"2. Revaccination with a single dose of 0.1 cc vaccine intracutaneously administered annually constitutes a reliable method of renewing immunity to typhoid fever, and should be the method of choice.

"3. Revaccination each year with a single dose of 0.5 cc of vaccine subcutaneously administered also produces a satisfactory renewal of immunity to typhoid fever. This procedure should be considered as an alternate method when conditions preclude intracutaneous administration.

"4. In order to maintain a high degree of immunity to typhoid fever, as indicated by humoral antibodies, revaccination at one-year periods appears to be an advisable procedure. Certainly, it appears that the interval between revaccination should not exceed two years. It may be added that revaccinations at the intervals recommended should not be discontinued because of age nor because of any number of previous revaccinations.

*"Whooping Cough Vaccine or Pertussis:*

"The experience with this vaccine has been limited to injections designed to prevent whooping cough. Inoculated children have been in the age group six months to five years. There is no indication that the vaccine would be of therapeutic value. There is substantial statistical evidence that there is definite prophylactic value when used as recommended. It should be administered to children after they reach the age of four months; although it may be advisable to administer it to younger children if whooping cough is prevalent in the neighborhood. It cannot be expected to protect children completely if it is administered after exposures. At least four injections at weekly intervals should be given.

*"Smallpox:*

"Smallpox vaccine should be administered during infancy and again just before the child enters school. If a person is immune to smallpox, the administration of smallpox vaccine will not result in a primary take and no

particular inconvenience will be caused. A successful take is proof that the person needed protection.

**Division of Vital Statistics**

"The mortality record for 1940 compared favorably with the record of previous years. The death rate from all causes was unchanged from that of the year before, and lower than any rate recorded prior to 1939. For several specific diseases there were significant gains. There were more births recorded than for any year since 1927.

"In exact numbers the 80,971 births reported during 1940 outnumbered the 32,194 deaths recorded by 48,971. There were 409 more deaths than for 1939, but fewer than for any other year since 1933. The death rate was 9.0 per 1,000 population. More deaths with a rate identical with that of 1939 is accounted for by the increase of our population.

"By a more detailed study of the tabulations of specific causes of death it is found that there are decreases in the number of deaths from many infectious diseases. Deaths from such debilitating causes as heart diseases, nephritis, cancer and diabetes either increased or showed no significant change.

"Among those conditions accounting for fewer deaths in 1940 than in 1939 was typhoid fever. There were 39 deaths from this disease last year compared to 46 the previous year. This is not a large decrease in numbers but when considered in relation to the total number of deaths it represents a 15 percent decrease and is a continuation of the downward trend toward the goal of complete eradication. There were 30 fewer deaths from all forms of tuberculosis. There were no deaths from smallpox; 10 deaths from measles compared to 63 in 1939; 88 whooping cough deaths compared to 226 the previous year, and 500 deaths from diar-

rhea and enteritis compared to 666 for 1939. Among other diseases that showed a decrease in the number of deaths and consequently the death rates were pellagra, appendicitis, tetanus, epidemic cerebrospinal meningitis, etc.

"The fewer number of deaths charged to pneumonia was a continuation of the downward trend begun in 1938. Last year there were 62 less pneumonia fatalities than the year before, 669 fewer than in 1938, and 860 fewer than in 1937.

"The mortality from diphtheria was lower than in 1939 but not the decrease desired or possible with the methods available for its prevention. There were 119 deaths from this disease in 1940, with a rate of 3.3 as compared with 170 deaths and a rate of 4.8 in 1939.

"In addition to the increased number of statistical tabulations and analyses made by the Division of Vital Statistics, the number of requests for certified copies of certificates, and verifications of age, parentage and place of birth, on the increase for the past two or three years, multiplied many fold during 1940. The increased demand is due largely to our national defense preparations. Persons employed in defense occupations are required to present evidence of citizenship, and a certificate recorded immediately following birth is considered the best proof. More difficulty was experienced in placing on file satisfactory records of births for persons born before 1913 and others who had no certificate filed at time of birth. The division was fortunate in securing WPA assistance for a period of six months to help fill these requests.

"Since there was no statutory authority for the delayed registration of births and the demand for such registration continued to increase, the General Assembly of 1941 enacted into law two bills which provide methods for delayed registration. In accordance

with the provisions of these acts a certificate not recorded within four years of birth may be legally filed. One other act passed by the General Assembly of 1941 effects specifically the Division of Vital Statistics. This law provides for the filing of a certificate of identification for a foundling.

#### **Division of Sanitary Engineering**

"Much excellent work in improving health conditions has been accomplished by the Division of Sanitary Engineering through the assistance of the Work Projects Administration during the past year; however with the advent of national defense measures it is becoming almost imperative that major construction such as water and sewer systems, sewage treatment plants, and in some instances malaria control and community sanitation projects be carried out solely through means of private contracts. The job of finding ways and means to carry on this work has fallen upon the Division of Sanitary Engineering.

"During the past year the number of counties in which community sanitation projects have been operating has been reduced. This reduction is principally because national defense projects have absorbed the labor that was formerly available for such work. In spite of the reduction in the number of counties operating such projects, 18,080 privies of the concrete slab and riser type have been constructed. The total cost of this construction was \$592,584.23 of which 52.8 percent was furnished by the Work Projects Administration. Technical supervision for the community sanitation program amounted to approximately 2.52 percent of the total.

"For the period April 1, 1940, through March 31, 1941, the malaria control program has been operating in eight counties with a total of 25 projects upon which assistance from the Work

Projects Administration has been available. Under this program, 74.9 miles of new ditches have been constructed by hand labor together with 60 miles of ditches that were recleaned; 40.4 miles of canals were constructed by machine, 494 acres of right-of-way were cleared, 1,214 acres of ponds and swamps were drained and one pond was filled. The total cost of this program was \$353,182.36 of which 58 percent was contributed by the Work Projects Administration. The cost of the technical supervision for this program as furnished by the State Board of Health was 2.6 percent. No funds for technical supervision have been available from the U. S. Public Health Service during the past year and as a result the scope of the work has of necessity been reduced.

"For the year, 1,252 inspections of retail bedding establishments and 2,944 inspections of bedding manufacturing plants were made. In addition, 51 inspections of places dealing in waste materials were made. Although 4,043 pieces of bedding were condemned, only 12 prosecutions were necessary.

"There were 704 approvals granted for the Federal Housing Administration. These approvals were based upon actual field inspections of water and sewerage facilities by State and county sanitarians.

"Farm homes in 20 counties were sanitized through grants from the Farm Security Administration. These grants covered screening, excreta disposal, and providing safe water supplies. In connection with this program 241 private water supplies, 60 sewerage disposal, and 154 privy inspections were made. As a result of this inspection service, better construction was obtained than would have been, had the approval of this division not been required.

"The personnel of this division supervised and assisted in making 2,257 in-

spections of dairies, 337 pasteurization plants, and 11 dairy and pasteurization plants at State institutions. It is gratifying to note that North Carolina again leads the rest of the nation in having more municipalities operating under the U. S. Public Health Service Milk Ordinance than any other state in the Union. North Carolina also leads all the other states in the Union in having more towns on the honor roll.

"As a result of 627 inspections of municipal water supplies and 383 sewerage inspections, 96 municipalities either have or are taking the necessary steps which will make water and sewer lines available to 100 percent of their population. This division is devoting a large portion of its time to the promotion of new municipal water and sewerage facilities. During the past year 42 towns have received presidential approval of projects covering new water and sewer systems, 21 of which are now under active construction.

"Since April 1, 1940, over 100 sets of plans and specifications embracing pasteurization plants, jails, institutional sewerage treatment plants, public rest rooms, swimming pools, abattoirs, water purification and sewage treatment plants, water systems, and sewerage systems have been checked and approved by engineers of this division.

"Continued progress in sanitating places where food is served at public fairs is evidenced by 706 inspections of such places. This is in addition to the 3,447 cafe inspections and 544 inspections of hotels.

"In order that North Carolina might maintain her top-ranking position in shellfish sanitation 1,119 inspections were made during the past year. In the same period of time 1,925 inspections of meat markets were completed along with 31 abattoir inspections.

"Numerous other inspections have been made during the past year which consist of 497 privies, 499 private sewerage systems, 10 sewerage systems and five water supplies at State institutions, 296 private water supplies, 152 schools, nine swimming pools, six summer camps, and 20 penal or charitable institutions.

"Although the number of inspections made and the amount of work accomplished by the personnel of this division is extremely gratifying it must be noted that reduced appropriations in some cases and complete withdrawal of funds in other instances, as well as lack of personnel has impeded the progress of this division to no small degree.

### Division of Oral Hygiene

"Approximately 70,000\* underprivileged children have had the necessary dental corrections made during this school year by the public health dentists on the staff of the Division of Oral Hygiene. An even greater number of privileged children have been referred to their own dentists for examinations and treatment.

"But this is not all that has been done by this division by any means. The primary purpose of the division is to conduct an educational program. The dentists on the staff have taught mouth health to an average of 1,000 children each school day, not only instructing them in the ways of caring for their teeth, but also trying to impress on them the importance of having healthy mouths because of their relationship to general health.

"To do this teaching in an acceptable manner, the dentists must be especially trained, and this is done in our School of Public Health Dentistry which is held at the University of North Carolina each summer. The dentists on the staff con-

sider this training essential to the success of their work. Experience has taught that the reaction of the child to the dentist depends a great deal on the dentist's approach to the child. For this reason, especial emphasis is laid on child psychology during the course at Chapel Hill.

"To break down the children's fear of the dentist and to assist us in teaching some of the fundamentals of mouth health, we are continuing for the sixth successive year our puppet show. This show plays three times each school day throughout the year. Recently we played in the schools of Johnston County, and more than 10,000 children witnessed the show in one week's time. This is a record so far as attendance is concerned.

"The usual number of sheets of mouth health education material, designed by the educational consultant on the staff, have been distributed in the schools. The dentists on the staff leave this with the teachers to use as follow-up material. To keep up the contact with the homes of the children, mouth health news releases have been sent out to the school papers every two weeks. One of the major accomplishments of the year has been the preparation and distribution of our handbook for teachers, *Teaching Mouth Health in North Carolina*.

"The construction of the Oral Hygiene Building by the WPA will afford the Division of Oral Hygiene some much-needed space to house their activity. The exhibit room and museum will be of great value in the health education of the thousands of school children who visit the State Capital each year.

### School Health Coördinating Service

"This is a coöperative project of the North Carolina State Board of Health and the State Department of Public In-

\*Figures will be completed June 30, 1941.

struction. By way of working out satisfactory plans to impart health training to in-service teachers, and, perhaps, eventually to establish sound courses in health instruction under the egis of the Public Health School at Chapel Hill, the General Education Board awarded \$4,700 to the School Health Coördinating Service for free health instruction to selected teachers and principals during the summer of 1940.

"Thirty in-service teachers and principals from the white schools and thirty from the Negro schools in the five counties of which field work has been undertaken by the School Health Coördinating Service during the 1939-40 session were selected to undergo health training at the University of North Carolina and the North Carolina College for Negroes, respectively. Stipends, covering practically the entire expense involved, were granted each teacher selected, and courses extending over a period of six weeks were conducted. Besides many informal conferences, three courses were given. These were: Child Health Problems, School and Community Health Problems, Principles of Health Education.

"In connection with these conferences and courses, a summer health school was held for malnourished children at each institution. At each place about 22 children were chosen by a physician from a much larger group which had been selected by the nurses. The children were put under a hygienic regime set up to conform as nearly as possible to natural home conditions. They were brought in at 8:00 o'clock each morning, Monday through Saturday, and taken home at 5:30 in the afternoon. During the day they had three full meals, a morning and afternoon rest period on cots, a one-hour swimming period, crafts, and various outdoor activities. Each child was given a thorough physical examination, a rather

extensive blood study, urine and stool examinations, and a complete dental check-up, including cleaning, fillings and extractions where indicated. The dental service was generously furnished by Dr. Ernest Branch of the Division of Oral Hygiene. Anterio-posterior and oblique X-ray pictures were made of all chests.

"Each class was under the direction of a full-time teacher. The summer school fellowship teachers studied the children carefully and followed their progress. The children were weighed regularly and, with three exceptions, showed a gain in weight of from one to seven pounds, with an average increase of approximately three pounds. Marked improvements were noted in physical vigor, mental alertness, and general attitude. One case of primary tuberculosis was detected and the child was sent to the State Sanatorium. She was discharged after about two months.

"About half of the food used was furnished by the Surplus Commodities Corporation, the home demonstration clubs and the Evaporated Milk Association. The remainder was purchased with funds from the General Education Board grant. Both lunchrooms were under the supervision of our nutritionist, and at each institution a full-time voluntary assistant, trained in home economics, was in immediate charge of the lunchroom. All commodities purchased were bought wholesale from merchants offering the best prices. Actual food costs chargeable to the special budget, averaged about nine cents per child per day, but when calculated on the basis of retail prices, including the foods furnished by the above-mentioned donors, the cost per child per day was approximately 19 cents. During the course of the summer health school and up to the present time numerous home visits have been made, and the coöperation of parents solicited. At

most without exception, parents displayed great interest and willingness to carry on the work in the home. Many of them asked for the recipes and menus used, and asked various questions concerning balanced diets, child feeding, and low cost foods.

"A short moving picture, built up around the activities of each group was made, and since the close of the school, these have been shown in various parts of the State, including the communities where the children live. Attendance was excellent and much interest in better nutrition was displayed. Without exception, every child expressed a desire to return next summer in case another summer health school should be held.

"Since September 1, 1940, the School Health Coördinating Service has worked in the following counties: Wayne, Halifax, Tyrrell, Hyde, Washington. Also preliminary work was done in the Negro schools of Craven County. These counties have a combined population of 171,706.194 schools and 1,115 teachers. These figures do not include the white schools or white teachers of Craven County. And preliminary operations have been carried out in the white and Negro schools of Ashe and Watauga counties. The health and school authorities of these counties coöperated

to the fullest and kept the staff members busy. During this period a minimum of follow-up work has been done in Stanly, Chatham, Orange and Person counties. This follow-up indicates that the work done there last year has borne fruit, and interest in child health problems has been maintained to a greater degree than had been expected.

"Applications for the service have been received from numerous other counties during the past year. A great deal of interest has been manifest throughout the State in school health work, and it is gratifying to note the tendency for health departments and school authorities to pull more closely together in dealing with the health problems of the school child.

"Because of the favorable reaction throughout the State to the courses and conferences on child health held last summer at the University of North Carolina and the North Carolina College for Negroes, another grant has been made to permit the continuation of this work during the summers of 1941 and 1942. The School Health Coördinating Service is coöperating with three State educational institutions in sponsoring this work. Fellowships have been provided to cover approximately three fourths of the expenses for six weeks at the following summer schools:

<i>Institution</i>	<i>Dates</i>	<i>Approx. Actual Expenses</i>	<i>Amount of Fellow- ships</i>	<i>No. of Fellow- ships</i>
University of North Carolina.....	July 21-Aug. 27	\$70-\$80	\$50	40
Woman's College of U. N. C.....	June 5-July 16	56	40	40
N. C. College for Negroes.....	June 9-July 18	40	30	40

"In addition to the teachers accepted on a fellowship basis, places will be reserved for a limited number who wish to attend at their own expense.

"The courses offered are:

"Child Health Problems.

"School and Community Health Problems.

"Methods and Materials in Health Education.

"Integrated with these courses will be numerous conferences, discussions, demonstrations, field trips, etc. A part of the work will be carried out on a 'workshop' basis. A number of State and national leaders in fields related to child health work will participate.

*"Credit.* This work carries five to six semester hours college credit and appropriate teacher certification credit. Graduate credit is available to properly qualified individuals.

"As was done last summer, a demonstration school organized as a day camp will be operated in connection with each unit. All possible measures designed to improve the health of each child will be carried out. Each teacher participating in the courses and conferences will have the opportunity of working with this group of boys and girls. Each person will make a contribution to the courses, conferences, and discussions. Each individual should go

back to his community with a new insight into school health problems and be able to take an active part in doing something about them.

"Several of the North Carolina colleges have expressed a desire to improve their health instruction and student health service departments. Preparatory to the establishment of adequate facilities, grants have been made by the General Education Board to train and partially support for a short period the personnel who will assume the direction and coördination of health instruction and health services at several of these institutions.

County	White Schools	Negro Schools	Total	White Teachers	Negro Teachers	Total	Popu- lation
Wayne	17	28	44	347	155	402	58,264
Hyde	6	14	20	40	28	68	7,630
Tyrrell	3	5	8	26	18	44	5,789
Washington	5	12	17	82	49	101	12,331
Halifax	18	60	78	181	224	405	55,905
Craven	....	27	27	.....	95	95	31,587
TOTALS	49	146	194	546	569	1,115	171,700

### Division of Industrial Hygiene

"Although a large part of the year was spent in the examination of the employees engaged in the construction of two hydroelectric plants in western North Carolina, the remainder of the year found us examining men from a number of varied industries throughout the State. These industries include mica, spar, kaolin, marble, granite, stone quarries, foundries, gold mines, talc mines, asbestos plants, etc. It should be pointed out that practically all of these are in the siliceous industry.

"Examination of the men of the various industries in the Spruce Pine area having been completed the latter part of May, our examination unit moved to the more central part of the State, where marble, granite and foundry industries were examined. These were completed the latter part of June.

These films were in the process of being read and the reports prepared when we were suddenly called upon to begin examination of the employees constructing the hydroelectric plant at Glenville and at Nantahala. This work was actually started the latter part of July and continued, with interruptions of various types and durations, until its final completion in February of this year. Numerous unexpected obstacles confronted us at almost every turn. First, there was the inability to obtain suitable current to operate our X-ray. Then there was difficulty in obtaining the men who were scattered well over a wide area, and there was a rather prolonged interruption brought about by terrific floods in the area involved, which did considerable damage and destroyed roadways leading to and from the projects. Later on labor difficulties developed and this had its turn in holding

up operations. Finally, the job was completed the latter part of February after having increased our own medical force, having borrowed both medical, engineering and chemical help from the U. S. Public Health Service, and also having borrowed medical help from the Department of County Health Work.

"Without having yet had the opportunity to make a detailed and accurate study of the findings and facts obtained during this series of examinations, a number of facts stand out in relief as being rather unusual. In the examination of some 2,000 men examined for this work, we were impressed with the few cases of hypertension encountered. Blood Wassermanns were run on all of these men with the result that approximately three percent were found to be positive. The scarcity of those cases showing evidence of tuberculosis should also be mentioned. We feel that on the whole these studies presented an unusually healthy group of men. Approximately half of the number studied were local men. The remaining half were imported labor; these being imported from north, south and west. This mixture of both local and imported labor engaged in a common purpose, we feel, gives us a fairly accurate cross-section of the tunnel industry as a whole. While there were some cases of silicosis discovered, and some of these fairly far advanced, we feel that the number actually found were comparatively small when we consider the total number of men examined. With the completion of this very interesting piece of work, we proceeded to move eastward and into the Piedmont belt of the State where the examination of the employees of a small gold mine, and the asbestos industry as a whole, were tackled. These industries were very carefully and thoroughly examined in as much as we had missed our regular fall trip in this particular field of work. Here follow-up studies

were continued as well as the examination of new employees. These films are now in the process of being studied and the reports will be forthcoming in the near future. A total of 3,050 men have been examined, including chest X-ray, during the 12-month period. Of these 2,070 were new examinations (pre-employment examinations), while 980 were follow-up or re-examinations.

"The legal side of the picture has also claimed its share of interest during the year. Nine hearings have been held before the North Carolina Industrial Commission, and we have been called upon for testimony in each of the nine cases. The nine hearings have involved six separate individual cases, three of them having been heard on two different occasions. The nine hearings have represented the foundry, mica, pyrophyllite, and asbestos industries. One hearing was conducted in the case of the foundrymen: three hearings in two cases of mica workers; three hearings in two cases of pyrophyllite workers, and two hearings for one asbestos worker. Other case reports and case summaries have been prepared for cases that have not yet been heard before the Commission.

"Among the miscellaneous happenings pertaining to the medical activities of the division for the year should be mentioned the temporary addition to our medical staff of Dr. H. W. Stevens, who joined us the latter part of July from the Department of County Health Work, and was finally returned to them early in September. Dr. J. A. Winstead was added as a permanent member of our staff on October 16th. Dr. J. Walter Hough was lent us from the Public Health Service, reported for duty on October 23rd, and was returned to the Public Health Service on December 14th. Dr. F. R. Adams was also lent us from the Division of County Health Work, reported for duty on Oc-

tober 21st, and was returned to County Health Work the latter part of December. Dr. R. F. Sievers was lent us from the U. S. Public Health Service on February 23rd, and was returned to them on March 5th.

"During the year two lectures were made to the second-year medical class at Chapel Hill, together with the trainees in Public Health. These two lectures dealt with asbestosis and silicosis. A third lecture was delivered to the same group on gases and fumes.

"A number of rather distinguished visitors were entertained and taken out into the field with us in order that they might become better acquainted with our actual working conditions. These visitors were sent to us, either from the U. S. Public Health Service or from the Rockefeller Foundation. Among them was Dr. Dierker from the Los Angeles County Health Department; Dr. Subba Rao, who visited us from the Department of Health in India, and Dr. Kiper from Turkey. Dr. J. W. Fitzpatrick, an engineer from the State of Indiana, also paid us a visit of several days. Finally, Dr. Maxwell Bowman from the Province of Manitoba visited us from Winnipeg, Canada.

"The engineering section of our group was equally busy with rather varied and diverse activities during the year.

"The field work for the year was quite widespread and diverse. A nuisance complaint in the City of Charlotte in connection with the lead solder was rather thoroughly investigated early in the year. Numerous visits were paid to the pyrophyllite plants of the State in connection with safety work and in connection with dust equipment. Talc mills and mines in the western part of the State were also visited. A number of visits were paid to the granite cutting sheds, the foundries, the asbestos plants, chair factories, manganese mines, mineral grinding plants, feld-

spar mills, tobacco plants, flour mills, cotton mills, upholstery industry, lead storage battery plants, textile plants, and finally the barracks at Fort Bragg came in for their part of the study in connection with the heating and humidifying system there. These various plants were visited for the purpose of obtaining dust counts, information relative to dust equipment, the installation of dust equipment, gas analyses, and various other information to the engineering phases of our work. Of course the tunnel work, in connection with the hydroelectric plant in the western part of the State, also came in for their share of studies involving dust counts, gas analyses, safety engineering petrographic studies, etc.

"Five lectures were delivered during the year to the second-year medical class and public health trainees at Chapel Hill. A talk was given to the Rotary Club at Liberty, and a radio program was arranged and conducted from Station WPTF and dealt with 'Sermons in Stones.'

"The laboratory work consisted of dust counts, gas analyses, calibration of instruments, preparation of stand solutions, petrographic analyses, screen analyses, and the various other laboratory work in connection with industrial hygiene.

"The office work consisted of the preparation of various exhaust ventilation systems, charts, diagrams, drawings, etc. There was also a report prepared on the investigation of the chlorine problem, a sulphur dioxide problem, a quartz grinding problem, card-room studies, exhaust and ventilation systems designed for storage battery plants, granite cutting sheds, pyrophyllite dust reports, various monthly annual reports, biannual reports, furniture plant reports, mica plant reports, tunnel reports, foundry ventilation designs, granite shed ventilation designs,

silica and dust studies, lead storage reports, asbestos plant studies and reports, and a rather extensive report on the barracks study made at Fort Bragg. Expert testimony in the case of a mica grinding plant heard before the Industrial Commission at Spruce Pine was also provided. Expert testimony was also rendered in a pyrophyllite case heard before the Industrial Commission at Asheboro.

"Numerous and varied articles were prepared for the regular *Safety Bulletin* put out by the Industrial Commission. Numerous other papers were reviewed and summarized. A rather lengthy paper was prepared for presentation at the Pittsburgh meeting on the tunnel work in western North Carolina.

"Mr. H. E. Seifert, engineer and chemist from the U. S. Public Health Service, was lent us and reported for duty on October 26th in Asheville, North Carolina, and was taken immediately for duty in the tunnel studies. He spent a considerable amount of his time in that type of work, and later assisted us in the lead storage battery study in Winston-Salem, North Carolina. Mr. J. LeVan was also sent down from the Public Health Service for training with our unit. He assisted in the lead storage studies in Winston-Salem and also in some of the granite studies. Considerable time has been spent in assisting in the preparation of the program of the Twelfth Annual Statewide Industrial Safety Conference to be held in Greensboro later in May. Numerous photographs have been obtained and prepared for displays with the view of illustrating various hazardous processes throughout the State.

"It has been observed that one or more of the granite industries have attempted to install dust collecting systems without proper instruction and supervision, and that the efficiency of

their systems have been found to be rather inadequate. In an effort to correct this situation, we have spent a considerable amount of time in properly designing the equipment and in the supervision of the installation of this equipment in other plants installing dust equipment more recently. We feel that these efforts are well worthwhile because without this supervision rather large amounts of money will be spent without the proper return resulting. Another object in rendering this service is to attempt to supervise and arrange the various dust collecting systems so that they will comply with standard codes. So far as we know, this service is not to be had from any other source within the State.

"A summary of the major activities of the division during the past year follows:

"Physical and chest X-ray examinations, 3,050; bloods collected for serological test, 2,750; cases autopsied, 1; compensation hearings—expert testimony furnished, 10; medical lectures given, 3; lectures to public health nurse groups, 3; special medical examinations, 3; Impingar samples of dust collected for particle count, 143; midget samples of dust collected for particle count, 18; Owens Jet samples of dust collected for particle count, 1; Impingar samples of dust collected for analysis, 4.

#### "Plants visited:

(A) Dust samples collection .....	22
(B) Relative to dust control.....	28
(C) For inspection and occupational analysis.....	58
(D) With trainees.....	21
Exhaust ventilation systems designed, sketched, revised.....	19
Dust samples analyzed petrographically.....	22
Samples of atmospheric impurities analyzed chemically.....	17
Samples of atmospheric impurities for chemical analysis.....	41

Comprehensive reports of work room studies.....	24
Monthly, quarterly, annual and biannual reports prepared.....	18
Papers, talks and radio broadcasts.....	33
“Special plant investigations:	
(1) Furniture; (1) cotton mill;	
(1) asbestos.....	3

### Publicity Service

“During the period included in this report, the State Board of Health’s publicity specialist, working under the direct supervision of the secretary and State health officer, has furnished the State’s approximately 200 newspapers with uninterrupted service, providing articles bearing on the activities of the Board. From the eighty-odd papers received without cost, he has compiled about 150 pages—12 by 16 inches—of clippings, which form a part of the permanent records of the Board.

“Under the direction of the above designated attache, radio programs were given each week over Station WPTF at Raleigh, which provided the time without cost, as a public service. In May, 1940, as on two previous occasions, he reported the annual proceedings of the North Carolina Medical Society, as a courtesy to that organization, working through the Associated Press, the United Press and other news agencies.

“Individual attention was given during the past year to students and others desiring special information on health activities; and, during the early spring of 1941, the publicity specialist cooperated with newspapers in furnishing specially prepared copy for baby and child health editions.

### Reynolds Research Laboratory

“*Establishment:* Funds were made available from the Smith Reynolds Fund for securing a syphilologist to serve on the staff of the School of Pub-

lic Health, University of North Carolina, for teaching and research in syphilology. The grant also covered the budget for an experimental syphilis laboratory.

“Dr. William L. Fleming was chosen for the job and arrived in Chapel Hill in October, 1939. Dr. Fleming had been a member of the International Health Division of the Rockefeller Foundation stationed at the Johns Hopkins Syphilis Clinic prior to coming to North Carolina. His staff at present consists of Miss Mary Wolf, secretary-technician, and Walter Clark, caretaker of animals. Securing of additional personnel has been delayed until the procurement of additional facilities permits expansion of the program for clinical training.

“*Organization of Laboratory:* During the latter part of 1939 and the early part of 1940 the laboratory and animal room were equipped and organized.

*Laboratory Investigation:* Work is proceeding along the following lines:

“1. The relationship of strains of syphilis. Human beings infected with syphilis proceed to widely different fates if their infection is untreated and to a lesser extent even if they do receive treatment. Possibly some of this variation in the course of syphilis may be due to differences in the infecting organism rather than due solely to differences in the constitution of the infected individual. Some animal experimental work has indicated that strains of syphilis isolated from different patients may differ somewhat, but the situation is not all clear. This problem is being worked on in rabbits with some of the 12 strains in the director’s collection.

“2. No one has ever been able to produce any evidence of immunity against syphilis in animals or humans without infecting them. This problem is being worked on by injecting rabbits with killed syphilis spirochaetes and later

testing for any evidence of immunity against the living organism.

"3. Effect of new drugs against syphilis in the rabbit.

"*Training of Students:* In the spring of 1940 four doctors who were candidates for the degree of M.P.H. were given special training in venereal disease control. This training consisted of lectures, seminars, and clinical training under the supervision of the director in the Durham City-County Health Department Venereal Disease Clinic. Additional training was given one of these physicians and special epidemiological training was given to one of the sanitarians. In the fall of 1940 a similar course in venereal disease control was given to 17 physicians enrolled in the School of Public Health. Additional courses were given throughout the rest of the school year to the physicians taking the full year's course for the M.P.H.

"*Facilities for Clinical Training:* Considerable difficulty has been encountered in arranging suitable facilities for clinical training. This difficulty will be overcome when the Durham City-County Health Department moves into its new quarters, making possible in-

creased space for the Venereal Disease Clinic. This will make possible better training for the students of the School of Public Health and the offering of short, intensive courses in venereal disease control for physicians working in public health clinics, health officers and private practitioners.

"*Publications Included:*

Turner, Thomas B., and Fleming, William L.: Prolonged Maintenance of Spirochetes and Filterable Viruses in the Frozen State. *The Journal of Experimental Medicine*, 70, 629, 1939.

Leiby, George M., Calloway, J. L., and Fleming, William L.: The Diagnosis and Management of Asymptomatic Uncomplicated Syphilitic Aortitis. *North Carolina Medical Journal*, 1, 301, 1940.

Fleming, William L., and Moore, J. E.: Human Constitution and Syphilitic Infection. A review of the literature, a projected method of study, and preliminary results in 36 patients, *American Journal of Medical Sciences*, In press.

## CORRECTION

On page 11 of the May issue of THE HEALTH BULLETIN we published a photograph of a little colored boy. The caption under the photograph was *About to Be "Shot."* Dr. J. H. Epperson, Superintendent of the Durham Health Department, brought this photograph to our office. It had been given to him by one of the nurses in his department, and having scores of just such scenes occur every day in their large daily venereal disease clinic, Epperson naturally assumed that it was taken by the nurse from one of the common, everyday scenes. The editor of THE HEALTH BUL-

LETIN realized as soon as he saw the small photograph which had no name, number nor designation of any kind on it to indicate authorship, that it was an unusual photograph of a very common scene in this section of the country. We, therefore, proceeded to publish the photograph, crediting it, of course, to Dr. Epperson and the Durham Health Department.

A few days ago, a physician in northeastern North Carolina wrote us, enclosing a copy of a publication known as *Medical Economics*, in large letters, with a subtitle, "The Business Magazine of the Medical Profession." It is a copyrighted publication, published by

(Continued on page 32)

# Medicine, Health and War

By WILLIAM H. RICHARDSON

**P**UBLIC health workers and practicing physicians, the former comprising the North Carolina Public Health Association, the latter the North Carolina State Medical Society, held their 1941 sessions at Pinehurst again this year. The 1942 sessions, however, will be held in Charlotte.

Profitable discussions marked the program of each organization, with its various sectional meetings, at Pinehurst. Public health and the problems of approaching war claimed no little attention on the Medical Society program, as well as that of the Public Health Association. There was evident a very marked determination on the part of all to "see it through," no matter what may come, and to utilize opportunities for service to humanity to the best advantage, whether in the field of curative or preventive medicine.

In his annual address, Dr. Hubert B. Haywood, of Raleigh, President of the Medical Society, devoted considerable time to a discussion of health problems, as they are associated with economic questions.

One of the outstanding features of the Medical Society's meeting was the address by Dr. Frank H. Lahey, of Boston, then president-elect and later installed as president of the American Medical Association.

Dr. Lahey very forcefully warned against minimizing the potentialities of the present world situation. He declared that to all intents and purposes we are in the war and told his hearers that if any mistake had to be made, let it be on the side of preparing for the worst that can happen.

There is no reason, Dr. Lahey said, why we should hide our heads in the sands that are liable to engulf us at any moment.

The Health Association heard a stirring address by Dr. Milton J. Rosenau, of Chapel Hill, on Public Health and National Defense and he, like Dr. Lahey, declared that America already is participating in the fight for freedom and should not be confounded in its course which, he said, should be straight ahead. He urged public health workers to face the facts as they exist and be prepared to measure up to what may be expected of them.

The Public Health Association elected Dr. R. E. Rhyne, of Gastonia, president for the ensuing year and Dr. N. T. Ennett, of Greenville, as vice-president, while Dr. Ralph J. Sykes, of the State Board of Health, Raleigh, was re-elected secretary-treasurer.

There were, of course, the usual social features incident to this year's sessions of the doctors and health workers, but running through their deliberations was a seriousness born of the present emergency.

The Woman's Auxiliary, which met simultaneously with the Medical Society, elevated Mrs. Sidney Smith, of Raleigh, to the presidency of that organization.

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## "AT A TIME LIKE THIS—"

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Thousands of high school graduates, all over North Carolina, have gone out, armed with diplomas, to face a new and strange world.

Many, of course, will go to college; others, by force of circumstances, must begin earning their living with the sweat of their brows, while others, still, will see military service and, perhaps, give their lives in the cause of democracy.

No matter in which direction the paths of these youngsters may run, they will inevitably, have to make choices for themselves. But there are other choices that must be made—on the part of their parents, guardians and others responsible for them until they are on their own.

No more important responsibility rests upon their elders than that of seeing to it that they are safeguarded against the spread of disease; that no obstacles be thrown in their paths which will keep them from achieving their proper places in the world. This they cannot do without health—and they cannot have health except amid

favorable surroundings. These surroundings must be provided by those who hold the purse strings.

What shall it have profited a parent if the child he has nurtured to the age of graduation fall victim to neglect?

One of the most stirring graduation addresses delivered in North Carolina was that made by Santfort Martin, editor of the *Journal-Sentinel* of Winston-Salem, before the hundreds who were given diplomas from the high schools of Raleigh. Always a progressive friend of public health, Editor Martin urged his young hearers to avoid those pitfalls that tend to undermine health and, many times as the result, character.

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## NUTRITION AND NATIONAL DEFENSE

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Recommendations adopted by the National Nutrition Conference for Defense, called by President Roosevelt, will be submitted to North Carolina's General Nutrition Committee for incorporation into the statewide program which was set up nearly two years ago. Dr. Carl V. Reynolds, State Health Officer, announced upon his return from Washington.

While an attendance of only 500 had been anticipated, there were 1,000 present from all sections of the United States, indicating the intense interest in the subject of nutrition as a means of winning the war. The last war was lost by Germany because of a lack of proper food, and the present one, conferees agreed, must be won with food by the United States and Britain.

The North Carolina committee will be called together very shortly for a conference, in order that the resolves of the Washington conference may be translated into action here, the health officer said.

"No effort will be made at this time to set forth these added details, as they will have to be carefully formulated and made to fit into the picture as it now exists," Dr. Reynolds said.

"It was very gratifying to hear many outstanding speakers at the conference refer to North Carolina's pioneer work in the field of nutrition for defense," he continued. "The importance and magnitude of this national conference is emphasized by the fact that it was one of only three of such conferences ever called by a president. Theodore Roosevelt, as many may remember, called a conference to consider conservation of the nation's resources, including its manpower. Woodrow Wilson called a conference on child welfare, known as the 'White House Conference,' which was continued by Herbert Hoover; and now, in this hour of crisis, Franklin D. Roosevelt has launched this movement, which is new from a nationwide standpoint, to defend America through the adoption of nutritional standards that will build, preserve and make more effective our manpower."

"Paul V. McNutt, who presided over the general sessions of the recent Washington conference, read a personal letter from the President, in which he expressed his regrets at not being able to attend in person.

"Chairman McNutt set the pitch for the conference when he declared, in outlining its general purposes:

"We are here to discuss nutrition. We undertake the discussion for two reasons. First, new and startling facts about nutrition have become known facts which are vital to the strength, health and security of America. Second, America faces today one of the greatest crises in her history—a crisis of such broad significance that we cannot afford to compromise our national strength in any way. If we lose, our way of life will fall, perhaps forever."

"These striking sentences found quick response on the part of those attending the conference, which discussed present nutritional problems facing America, not only in general sessions but in smaller groups, in order that a definite program might be worked out for presentation to the President, with recommendations.

"There were many important personages present to give their views, to hear reports that were brought in from all sections of the country, and to participate in the formulation of a unified, workable program, based on facts as they now exist.

"Specialists who participated in the discussions recommended, in brief, the following procedure, which will be submitted to the North Carolina committee:

"Improvement of presently known chemical and biological procedures for estimating the amounts of essential nutrients in foods and their physiological availability.

"More refined techniques for the detection of nutritional deficiency states,

especially in the subclinical degrees of intensity.

"More precise determination of the optimum and minimum requirements of human subjects for each of the nutrients, as influenced by age and physiological status (including pregnancy and lactation) and those factors which affect their utilization.

"Study of problems relating to the nutritional needs of the individual as influenced by constitutional inefficiencies, by suboptimal nutrition, by disease and convalescence.

"Studies directed toward clear definition of the physical status of the individual.

"Study of all factors affecting the nutritional value of foods and their preservation during the interval between production and consumption.

"Study of methods of preparation of foods for consumption so as to avoid losses of nutrients.

"Food habits and methods and effects of changing them."

Dr. Reynolds declared that the above objectives furnish the basis for a far-reaching study which should result in benefits not only during the present national emergency, but in shaping the lives of Americans for years to come.

"Few words were wasted at the conference," the health officer concluded. "It was plain from the beginning that action, rather than words, constituted the goal.

"Our people may rest assured that, through the proper channels, they will derive all possible benefits of this important movement, through an intensified continuation of the work we already have started in this State. Forces coöperating with the Board of Health already have made one annual report, but their efforts will be greatly stimulated by what happened in Washington."

## CANADIAN VISITORS IMPRESSED

Dr. Herman Siemens, of Alberta, and Dr. C. Doucet, of New Brunswick, recently visited Raleigh, preparatory to spending the greater part of a month in North Carolina, studying public health methods employed here.

Each of the visiting Canadians holds a position similar to those occupied by county health officers in this State. They came here under the sponsorship of the Rockefeller Foundation, and the first place they visited in North Carolina was the State Board of Health, where they held conferences with Dr. Carl V. Reynolds, State Health Officer, who recently was elected vice-president of the State, Territorial and Provincial Health Authorities of North America, of which Dr. Frederick W. Jackson, of Winnipeg, is president; Dr. R. E. Fox, Director of the Division of County Health Work; Dr. J. C. Knox, Director of the Division of Epidemiology; Dr. John H. Hamilton, Director of the Division of Laboratories; Dr. G. M. Cooper, Assistant State Health Officer, Director of the Division of Preventive Medicine, in charge of the Board of Health's maternal and infancy work, and others.

Drs. Siemens and Doucet held extensive conferences with Dr. Fox, in order to familiarize themselves with work being done in the 81 counties and six cities of North Carolina which give full-time organized public health protection. Later, they left for field trips to see, first hand, some of the activities in progress.

"We came to North Carolina," Dr. Doucet said, "because this is looked upon as a model state in the field of public health. Our observations, so far, have borne out this conception of what you are doing in North Carolina. Moreover," he added, "we are particularly interested in public health activities in the United States at this time when we of the Dominion and you of this country have so many problems in common, in connection with preparations for the common defense of the western hemisphere."

The Canadians, during their sojourn in North Carolina, visited some of the defense areas, in order to study the relation between these and public health, especially in the matter of affording protection for the civilian population, which has been so strongly emphasized by Dr.

Reynolds in his recent utterances and which claimed the attention of public health workers and physicians at their recent meeting in Pinchurst.

Dr. Siemens and Dr. Doucet come from widely separated areas, yet they find much in common in public health work, irrespective of the territory under study.

The fearless leadership of President Roosevelt in this time of emergency is commanding the respect and admiration of the Canadian people, the visitors declared. "Our people gather around their loud speakers every time he makes a public address and try not to miss a word," Dr. Doucet declared.

Each expressed confidence that the forces of democracy will triumph and that many valuable lessons will be learned in the field of public health which will stand the States and the Dominion in good stead not only during the war but after peace is restored.

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## CORRECTION

*(Continued from page 28)*

"Medical Economics, Inc.," of Rutherford, New Jersey. This photograph appeared on the front cover of that publication in the October, 1940, issue and, according to the index which accompanied the letter of the North Carolina physician, the photograph was a special product of Dr. Ted Leigh of New York City.

On referring the matter to Dr. Epperson, he was as surprised as we were and on immediate investigation found that the nurse in his department who had given him the photograph presumably from one of his clinics, had obtained it from her father who is a practicing physician in this State. She did not explain that fact to Dr. Epperson and hence his erroneous assumption.

We regret very much the error. It is the first time in nearly twenty years during which the present editor has edited THE HEALTH BULLETIN that such a thing has occurred. We, therefore, extend due apologies to the author of the photograph, Dr. Ted Leigh of New York City, and the publication, *Medical Economics*, of Rutherford, New Jersey.



# The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

**This Bulletin will be sent free to any citizen of the State upon request**

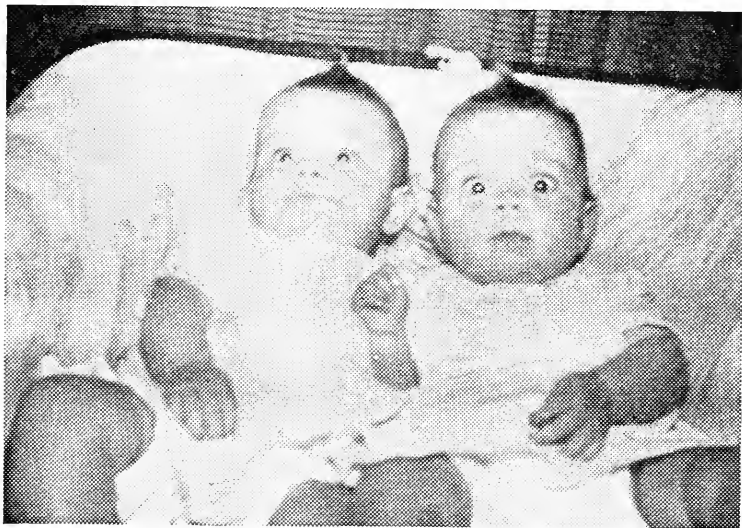
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No. 8



**JANNETTE AND ANNETTE BIVENS**

Greenville, N. C.

The above is a photograph of the twin daughters of Mr. and Mrs. Thomas W. Bivens, now of Greenville, N. C. Mr. Bivens is the Sanitary Engineer with the Pitt County Health Department. This photograph was made in May. At that time the babies were about seven months old. We appreciate the privilege of publishing this unusual and interesting photograph of these babies.

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
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### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months. 2 to 3 years; 3 to 6 years.
Breast Feeding	Instructions for North Carolina Midwives
Infant Care. The Prevention of Infantile Diarrhea	
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# THE Health Bulletin

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Vol. 56

AUGUST, 1941

No. 8

CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D. *Editor*

## Notes and Comment

By THE EDITOR

### August Reminiscences

WE feel sure that many of our readers have noted in recent years an increasing tendency in our editorial work to yield to a sort of weariness in well-doing. Plainly speaking, what we mean is, that we are more inclined to get tired of offering free advice to the citizens of this State, notwithstanding the fact that some of the advice is vital to their welfare and most of it would pay good dividends if accepted and utilized. It is time today to send our stuff to the printer for another issue, and we are mentally and physically firmly inclosed in an intellectual vacuum.

Anyhow, a long, laboriously written, anonymous letter, coming from an evil-minded old hypocrite who gives his place of residence as the "State of North Carolina" and signs his name: "A Citizen," takes us back in memory to an incident which happened in the early days of our practice, now getting dangerously near to forty years ago. This old hypocrite's letter was mailed at Washington, North Carolina. His internal pains seem to center around two things. One was that the State has no right to prevent a syphilitic from marrying and that the matter of health should not come into the equation in such things. In other words, he seems to be for free marriage between any

persons at any time, in any place; a sort of a "free love" advocate. The second thing that was doubling him up in pain is the terrible state of affairs existing at present everywhere in which male physicians in their work for their patients, female patients, of course, occasionally in such jobs as sewing up a lacerated perineum, have to see what they are doing in order to deal successfully with the job at hand, a purely professional enterprise just as much so as any other artisan dealing with the physical problems in his line.

This anonymous tirade, of course, belongs in the wastebasket along with such other documents, and we usually pay no attention to it and would not in this case, except for the feeling expressed in the beginning of this item.

The State marriage laws and the laws for the prenatal care of women represent the most progressive legislation probably placed on the statute books in this State in fifty years. These laws need no defense at our hands or anybody else's. They speak for themselves in the benefits which will be increasingly evident all over the State as time goes on.

As for a defense of the doctors, goodness knows they have enough sins that require defending, but as that is not our job, we let it ride. In this particular matter, however, if that were

the only sins doctors were guilty of, most of them would be wearing wings and a white robe right now.

The incident we refer to above somehow comes up fresh in memory on reading this tirade mailed at Washington, North Carolina. It happened in this way: A year or two after we began practicing medicine in the town of Clinton, the State of North Carolina had what was known as open range. That is, any farmer instead of fencing in his cows and hogs and other livestock, fenced in his fields and in the morning would turn his stock out to wander around over the fields and in the woods where the fences were not secure. Clinton, like most of the small, growing towns at the time, was pestered by hogs and cows that would come in from the suburbs, break down little fences, tear up the flowers in the yards, and in other ways make life miserable for the residents of the town. The city fathers got together and decided to fence in the town or to fence out the country, as the case might be. The upshot was that every approach to the town proper, that is, all of the highways and roads leading in, had a fence with a big double gate across it. Every vehicle that came in or went out had to stop and someone get out and open the gate and then shut it. There was a rather stiff fine and penalty for any fellow that left the gate open.

Along in those days around Clinton, there was a sect of people later known as Holy Rollers. They had what they called "member meetings" frequently somewhere, generally around the suburbs.

One hot night we had been out on a long case in the country and drove in tired and weary about 12 o'clock. We had to stop and get out to open the gate, which was near a big old rambling mansion which had belonged to the mother of the War Governor of

Louisiana named Moore who had gone from the Clinton section to Louisiana many years before. This old mansion had gone down and was rather dilapidated, but the big old house with high ceilings and big windows, which were all open on that hot night was occupied by one of those families active in the Holy Roller enterprise. They had a right good crowd that night and things were going strong. One tall old bearded man who was the tenant of the place had the floor as we drove up to the gate. His particular specialty was sexology and the delinquencies of the medical profession. He was well known for shiftlessness and thriftlessness and general no-accountness, but he was an orator of no small parts. As we stopped at the gate he reached a high note which could have been heard a block away, on how dirty and no-account and trifling the average doctor was and how mean he was and that if people had the faith in the Lord they ought to have they (the doctors) would all have to go out of business, and that for himself he wouldn't be caught in any doctor's office for anything in the world; that there was nothing they could do for people that the people couldn't do for themselves, etc., etc.

We sat there for half an hour and listened, hearing ourself pictured in person as a regular ogre, along with the other five physicians in the town. It was hard to tell which one of us was the meanest, to hear him tell it. Somehow, the thing seemed so amusing to us that when he finally closed we reluctantly drove on home and went to bed.

The funny part of this story comes now. On this place near this old mansion, there was a remnant of an old carriage house, with the turret in the top. It had just about all rotted down, but a few remaining portions needed to be taken down, and next morning—

Monday morning—about ten o'clock we were sitting by the window examining a patient in our office when a couple of men came in carrying a rather bedraggled patient. The patient was our old orator critic of the night before who swore so emphatically he would never be caught in a doctor's office. He had been out tearing down some of the remaining old shelters, a support had fallen out and a rather heavy beam had come down on his head, and notwithstanding his long, matted hair, had split about six inches of his scalp right on the top of his head, clear down to his skull bone. He was bleeding plentifully and his half acre or so of whiskers were all messed up with the blood, and in short he did not look at all like an orator. There never was a more pitiful looking patient to enter our office and one more humble, and at that time in more need of surgical assistance. We, of course, did like any other physician would have done, applied first aid, and immediately went to work, but in the meantime while doing so, expressed surprise that of all the people in the world, after his speech of the night before criticising and abusing physicians, he

should be the last man that would have come to a physician for help. The outlook was quite different, however, at ten o'clock Monday morning from what it was at midnight the night before.

To make a long story short, the old man got well without complications and we never got any pay for the service, but there is one thing that could be said for him, he never was known again to criticize physicians, and after all, that might have been worth the hour's work we had to put in on his head. It was rather heroic treatment which was required (that is, for the shelter to fall down on him) and who knows but what the good Lord Himself had a hand in applying it.

We mention this incident simply in the way of hot weather entertainment for any of our readers who may care to read it, and if our anonymous critic at Washington happens to see it, it may warn him not to walk under any ladders or stumble over any black cats so a doctor might have to sew up his head. We have an idea that his whiskers would be hard to untangle just as the case in Clinton 35 years ago.

## Role of the Medical Social Worker and the Public Health Nurse in the Control of Syphilis\*

By J. LAMAR CALLAWAY, M.D., AND RUTH E. BARKER, A.B., M.A.  
Durham, North Carolina

**I**N THE organization of a syphilis clinic for the diagnosis and management of patients with syphilis, it is important to keep in mind these steps and procedures:

1. Registration.
2. History and physical examination.

3. Darkfield examination.
4. Blood tests.
5. Routine and special treatment.
6. Urine examination.
7. Spinal fluid examination.
8. Fluoroscopy or X-ray examination.
9. Social service interview.

### (a) Case Finding:

1. Searching out contacts from whom patient may have acquired infection.

\*From the Section of Dermatology and Syphilology of the Department of Medicine and from the Department of Social Service, Duke University School of Medicine.

2. Searching out contacts to whom patient may have given disease.
3. Investigation of spouse, children; other familial contacts who may have disease.

(b) Case Holding:

1. Helping patients to follow treatment by an understanding attitude and assistance with patients' social problems, financial, family work, etc.
2. Letters.
3. Office, hospital or clinic interviews.
4. Home visits.
5. Enlisting influence of employers, social agencies, schools, etc.
6. Coercive methods for uncooperative infectious patients.

From this tabulation you can see that the social service interview or public health nurse interview is as important as any other single part of the organization.

The medical social case worker or public health nurse, during her interview with each new patient in the clinic, attempts to develop the patient's confidence in the clinic and exhibits a personal interest in the patient's welfare. She should maintain an uncritical attitude in her relationship with each patient, both in regard to finding contacts and in follow-up. Accurate and complete identifying data, social information and something in regard to personality and psychological factors should be obtained. The patient should understand the importance of contact examination so that he feels responsibility for "case finding."

As can be demonstrated in the following chart, a number of patients were brought under treatment when a posi-

tive serological test was found in a man and another in a child as a result of a routine examination in the out patient clinic. In the case of the child, mother, father, and three out of four children were found to have syphilis as a result of follow-up. In the other illustrated case, family investigation in which the man was found to have syphilis, resulted in the discovery of syphilis in the wife, two children, and original source of contact.

		<u>PM</u>			
<u>PF</u>	<u>PM</u>	<u>Pf</u>	<u>Pm</u>	<u>Pf</u>	<u>Nm</u>
Mother	Father	Siblings			
<hr/>					
		<u>PM</u>			
<u>PF</u>		<u>PF</u>			
Source of Contact		Wife			
		<u>Pf</u>	<u>Pm</u>	<u>Nf</u>	
		Children			
<hr/>					
Adult male	. . . . .			M	
Adult female	. . . . .			F	
Child male	. . . . .			m	
Child female	. . . . .			f	
Positive Wassermann	. . . . .			P	
Negative Wassermann	. . . . .			N	

The social worker and public health nurse need to evaluate the strengths and weaknesses in the patient's situations that promote or threaten regular attendance. Regular attendance may be jeopardized by a great number of things such as:

1. Financial unpreparedness.
2. Inconvenient clinic hours.
3. Social and emotional instability.
4. Misunderstanding of medical plan.
5. Indifference.
6. Social complications.

A program of education should be carried on with each patient. Simple pamphlets describing the nature and treatment of syphilis may be distrib-

uted; suggestions and advice for isolation can be given; and a review be made of the treatment plans and instructions given by the physicians to the patient. The patient is encouraged to ask questions so that misconceptions, fallacies and superstitions can be discovered. In addition, the public health aspects of syphilis are explained and the patient is familiarized with clinic routines.

When the patient's social problems create difficulty in following treatment, a number of community agencies which perform a variety of services, are available for the patient's use. These agencies range from private and public welfare agencies, child welfare services, group work organizations, service clubs, schools, etc. Several different medical

and health agencies are available such as public health clinics, industrial and private clinics.

In conclusion, we cannot overemphasize the importance of the need for an understanding of each patient's situation, his attitudes toward his disease and his ability to follow treatment. If the fundamental difficulties of each individual patient can be determined, the medical social worker and the public health nurse are then in a position to help meet these difficulties. Even though the functions of the medical social worker and the public health nurse differ by virtue of training, experience and skills, each, by working closely with the other, plays an important role in the control of syphilis.

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## The Army Declares War on Mosquitoes

*By C. M. WHITE, Engineer*

Malaria Investigation and Control

**U**PON returning from a campaign against the Indians in Tennessee over a century ago, the commanding officer reported that they found nothing to fight but mosquitoes. Since that time, an almost continuous war has been waged between our army and these disease-bearing pests, with the mosquitoes all too often emerging as the victors.

During the Civil War numerous soldiers in the Union Army died of malaria and thousands of others were partly or totally incapacitated.

In the Spanish-American War more American soldiers were killed by mosquito-borne diseases than by Spanish bullets.

Prior to the advent of World War No. 1 public health workers learned the causes of yellow fever, malaria, and other diseases of less importance which are transmitted by mosquitoes, and developed effective methods of control. Intense mosquito control programs were

carried on in Southern cantonment areas and mosquito-carried diseases became a problem of minor importance.

Even though the mosquitoes which carry yellow fever are present in large numbers in North Carolina as well as in other Southern states, we have no yellow fever. It is necessary that the mosquito bite a person with yellow fever before it can give it to anyone. The United States Public Health Service takes every possible precaution to prevent the entrance into this country of persons infected with yellow fever and of yellow fever mosquitoes from countries where the disease is suspected or known to exist. These measures are entirely effective and yellow fever has ceased to be a problem. Since the other mosquito-borne diseases are relatively infrequent in the United States, malaria remains the only such disease upon which it is still necessary to carry on intensive preventive measures.

Malaria can be transmitted from one

person to another, in nature, only by the bite of a mosquito. In North Carolina there is only one mosquito, the *Anopheles quadrimaculatus*, which is a proven carrier of the disease. Malaria mosquitoes bred in ponds, ditches, and other bodies of reasonably fresh, still water where the acidity is not too high. Where there is not too much shade, they will also breed in swamps. Conditions favorable to the production of these mosquitoes are a constant water level, collections within the water of floatage and other debris, aquatic vegetation which pierces the water surface, minimum wave action, slightly alkaline or neutral water, and the absence of natural enemies of mosquito larvæ.

The surest and most effective method of control is the elimination of water in which mosquitoes breed by drainage or filling. On ponds the breeding can be kept down by cleaning all debris, vegetation and floatage from the pond; fluctuating the water level; and applying larvicides to the areas in which mosquitoes breed. Frequently only one of these measures will be sufficient, but occasionally a combination of them all is necessary. In ditches where there is an insufficient grade or supply of water to maintain a constant flow mosquito breeding can be kept down by removing the trash and applying larvicides.

There are two larvicides in general use: Various mixtures of oil consisting of petroleum products, or paris green mixed with an inert dust. Paris green kills only mosquitoes of the malaria-carrying type while oil kills all species. For this reason oil is usually recommended. The blend of oil found to be most effective in the Laboratory of the North Carolina State Board of Health consists of 80 percent number two fuel oil and 20 percent burnt cylinder oil. Oil can be very effectively applied with knapsack sprayers.

At Fort Bragg, North Carolina, the Army is conducting a war on mosqui-

toes which involves the drainage of numerous swampy areas on the post which will require over a hundred miles of ditching, the installation and operation of fluctuation devices on several large artificial ponds, the removal of debris and vegetation from these same ponds, and the application of oil to the edges of the ponds, as well as numerous ditches and swampy areas that have not yet been drained. The work is being done by about a hundred civilian laborers under the able direction of First Lieut. D. J. Turpin, a young officer of the Sanitary Corps.

Camp Davis is located on a flat area 66 feet above sea level and only three miles from the sound. This makes good drainage with a rapid run-off possible. It is necessary to cut outlet canals into which lateral ditches can discharge the water before the flat areas can be drained. A tremendous drainage project is now in operation with facilities furnished by the WPA and CCC. Four  $\frac{3}{4}$ -cubic-yard draglines are cutting the canals and over a hundred laborers are clearing right-of-way and cutting lateral ditches. A force of CCC boys are oiling all of the standing water around the camp. The oiling will be greatly reduced as the drainage progresses.

On the New River Marine Corps Base at Jacksonville, which is now under construction, 350 WPA laborers are engaged in clearing and other work preparatory to a large drainage and oiling program. Two draglines have been ordered which will be used to cut canals.

Since the Army and Navy restrict the work they do to the government reservations, other facilities had to be provided to protect soldiers and defense workers against mosquitoes that breed near the posts or in areas where troops are concentrated. The United States Public Health Service is financing an

(Continued on page 16)

# North Carolina Indians and the Public Health Program

By WILLIAM H. RICHARDSON

IF ALL the Indians in North Carolina were gathered in one place they would form a city about the size of Salisbury, which, we all know, is in the major league of North Carolina municipalities.

No state east of the Mississippi River has a larger Indian population than North Carolina. In fact, only five in the entire United States have, these being: Oklahoma, Arizona, New Mexico, South Dakota and California.

When an Indian woman in Person County recently gave birth to quadruplets, this prompted a perusal of vital statistics for members of her race in North Carolina, which are kept by the State Board of Health apart from those for the white and Negro races.

With the present Indian population of North Carolina conservatively estimated at 20,000, it was found that the Indian birth rate in this State is approximately 40 per 1,000 population, as compared with a general birth rate of 22.3, the white birth rate being 21.4 and the Negro rate 24.2. Add to this the fact that the death rate appeared to be only 8.4, as compared with a general death rate of 9.0, and it is readily seen that the Indian race is not "dying out," as many suppose.

In 1939, for which the Vital Statistics Division has issued a printed report containing complete data on births and deaths from all causes, among all races—by ages, etc.—there were 803 babies born to Indian mothers in this State, while the total number of deaths was 168.

Diseases of the heart claimed the largest toll among Indians, even as they do among Caucasians and Negroes, with

23 out of the 168 total. Twenty-one died of nephritis; 14 of pneumonia; 11 of cerebral hemorrhage, cerebral embolism and thrombosis, and 7 of tuberculosis in all forms. Whooping cough claimed 2; influenza, 3; syphilis, 3; cancer, 4; diabetes mellitus, 1; pellagra, 2; diarrhea and enteritis, among children under two years of age, 6; appendicitis, 1; cirrhosis of the liver, 1; homicide, 4.

There were no deaths among Indians resulting from typhoid fever, smallpox, measles, scarlet fever, or diphtheria. Neither did any die of malaria, dysentery, poliomyelitis, or meningitis.

## No Suicides, Alcoholic Deaths

Not one committed suicide; none died as the result of senility. Nor were there any deaths resulting from acute or chronic alcoholism.

Of the 803 Indian babies born in North Carolina during the year under consideration, 609 were born in Robeson County, 23 in Columbus, 9 in Cumberland, 10 in Harnett, 19 in Hoke, 9 in Jackson, 7 in Person, 17 in Sampson, 10 in Scotland, 77 in Swain, and but one in Cherokee, named for the once mighty Indian nation. One was born in each of the following counties: Duplin, Macon, Moore, Richmond and Rockingham, while two were born in Stokes, and two in Johnston.

And so, there has been presented a general picture of life and death among the Indian population.

What has public health to offer this minority group in North Carolina? The answer is: The same advantages that are afforded the rest of the population.

Before going into this more fully, it is not amiss to state that public health can go only so far, that is, to the point

where it is either accepted or rejected by those it would make the beneficiaries. There are, of course, certain health laws which must be observed, along with other laws, but the real benefits that accrue from public health are governed to a large extent by the mental attitude of those to whom these benefits are made available.

### How Indians Respond

The reaction of the Indian population finds reflection, for example, in the last biennial report of the State Board of Health's Division of Preventive Medicine, the director of which is in charge of the Board's maternal and child health services.

The report just referred to covers the biennial period ending June 30, 1940, during which time, it is pointed out, there were 364 new Indian women patients at the various maternity clinics. If there were 803 Indian babies born in North Carolina during the calendar year of 1939, included in the report, then it is reasonable to assume that the equivalent of half the number of new patients reported as having visited these maternity clinics for the biennium visited them during this calendar year. If there were 364 new Indian patients during the biennium referred to, it may be assumed as being approximately correct that 182 of the mothers who gave birth to 803 Indian babies in 1939 received the competent prenatal and postpartum service made available through trained and competent public health personnel.

It is not unreasonable to go further and assume that, whatever may have been the success with which these women went through pregnancy and made their deliveries, both they and their infants fared better than would have been the case had not this service been made available to them.

Indian mothers took their babies to child health centers to the number of 103 during the two-year period under consideration. This is an average of 50 plus for a single year, and the relation of 50 to 800, in round numbers, is one-sixteenth—meaning that, out of every hundred babies born to Indian mothers, a fraction more than six received clinical services.

### Other Services Extended

Indian children receive the benefits derived from dental examinations and corrections, where their parents are not in a position to pay, just like white children and Negro children.

On December 31, 1938, there were 123 Indian children on the register entitled to the benefits extended by the Crippled Children's Department of the State Board of Health, which falls under the jurisdiction of the Division of Preventive Medicine.

The North Carolina Orthopædic Hospital at Gastonia provides beds for crippled Indian children needing hospitalization, while the State's clinics, under the sponsorship of the Board of Health, are open to them for diagnosis and correction. Six of the general hospitals, besides the Orthopædic Hospital at Gastonia, are also open to them.

Hence, Indian children enjoy the same privileges and benefits from this and all other services that are enjoyed by other groups. In counties where there are reservations they receive the benefit of workers assigned to minister to their needs.

Public health knows no race, no creed. Its main objective is mass protection, which means protection for the individual and the group—protection to the State, the county and the community.

## VISITORS FROM FAR PLACES

In spite of the war in Europe, no grass has been allowed to grow on the beaten path to North Carolina's public health doorstep.

Recent visitors to the State Board of Health reflected the "good neighbor" policy now being cultivated among the peoples of the Americas.

July guests included:

Dr. Maxwell Bowman, Director of Industrial Hygiene and Epidemiologist for the Canadian Province of Manitoba.

Mr. Luis Mantilla, Chief Engineer for the National Ministry of Health of Peru.

Mr. Tarik Bilginer, of the Turkish National Ministry of Health.

Dr. Edwin H. Place, of the United States Public Health Service.

Dr. W. P. Beardsley, of the National Institute of Health.

The above were especially interested in the subject of industrial hygiene, being engaged in that work in various capacities, either as active or prospective specialized workers.

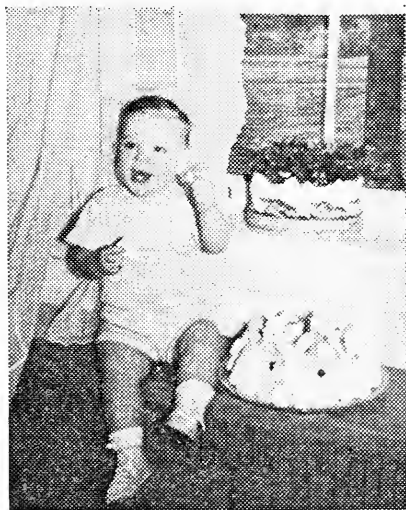
Another visitor was Dr. M. G. Candau, of Brazil, who came to interview North Carolina public health officials on work sponsored by the Children's Bureau. He is to become director of a health unit in Rio de Janeiro.

Back in April Dr. Marta Robert De-Romeu, head of the Maternal and Child Health Service of Puerto Rico, was a most interesting visitor for two days spent with the Division of Preventive Medicine.

Finally, the editor was pleased to receive a most pleasant surprise call from Dr. and Mrs. R. W. Ball, of the South Carolina State Board of Health. Dr. Ball is now serving as a captain in the United States Army forces at Camp Stewart.



**Robert Butler Trotman, Jr., at six months, son of Mr. and Mrs. R. B. Trotman of Plymouth. Mrs. Trotman was a staff nurse with the State Board of Health for several years.**



**Billy Colvin Hubbard, son of Mr. and Mrs. E. C. Hubbard of Chapel Hill. This picture was made on Billy's first birthday.**

## SUNBURN MAY CAUSE CANCER

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Severe sunburn, incurred season after season, may cause cancer of the skin, the United States Public Health Service warned at the start of the summer vacation period.

Scientists of the National Cancer Institute of the U. S. Public Health Service produce skin cancer in animals by ultraviolet radiation—the element in sunshine which burns the skin. There is also circumstantial evidence that sunburn causes human skin cancer. Farmers and sailors, and other groups most exposed to sunshine, develop skin cancer most frequently. Further, human skin cancer develops most often on parts of the body constantly exposed to the sun. Blondes are more susceptible than brunettes. Skin cancer occurs least often in Negroes.

The ultraviolet radiations of sunlight are partially intercepted by dust and smoke. Sunlight in the country, therefore, is more dangerous than in the cities. At the beach or on snowy mountaintops sunlight is most dangerous.

While occasional sunburn cannot be said to cause skin cancer, it nevertheless severely damages skin tissue, and may cause serious illness.

National Cancer Institute scientists stress, however, that judicious exposure to sunlight is beneficial. It prevents rickets, aids tuberculous persons, and builds general body resistance. Sunshine is a rich source of vitamin D.

Skin cancer and its relation to sunlight is discussed in the December issue of the *Journal of the National Cancer Institute* in an article entitled "Sunlight and Cancer of the Skin," by Dr. Harold F. Blum, research fellow.—By *United States Public Health Service.*

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## MATERNAL DEATHS SHOW DOWNWARD TREND

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From January 1, through May, this year, there were 34,444 babies born in North Carolina, which was just 1,973 in excess of the number born during the corresponding period of 1940, the State Board of Health reports.

Furthermore, births during that period exceeded the 14,424 deaths in the State by 20,020.

Maternal deaths were shown to be on the decrease, there having been only 161 during the first five months of 1941, as compared with 188 for the same period last year, a decrease of 27.

But the mounting toll of deaths from preventable accidents also comes in for consideration.

From January through May, vital statistics figures show, 709 persons in North Carolina were accidentally killed, as compared with 543 for the same period a year ago—an increase of 166. Most of these deaths resulted from traffic accidents.

There were during the period of the compilation, 104 fewer deaths from pneumonia than occurred a year ago, 39 fewer deaths from tuberculosis and 23 fewer from diphtheria. Up to June 1, there had been only 28 diphtheria deaths in the State. Last year there were 51 during the first five months, 27 of these occurring in January alone, as compared with only 9 in January this year.

## A Regulation of the North Carolina State Board of Health to Prevent the Spread of Malaria by Enforcing the Control of the Breeding of Mosquitoes in Impounded Waters.

WHEREAS, under provisions of the statutes of North Carolina, the State Board of Health is authorized and empowered to adopt and promulgate rules and regulations which in its judgment seem necessary for the management, supervision, or control of preventable diseases in the State; and

WHEREAS, the State Board of Health does hereby find and declare that malaria is a preventable disease; and

WHEREAS, in the judgment of the State Board of Health it is necessary to adopt and promulgate the following regulation to prevent the introduction or spread of malaria as a result of the impounding of water through other than natural causes:

NOW, THEREFORE, the State Board of Health in regular meeting assembled, does hereby adopt and promulgate the following regulation:

### WPA AIDING IN CONTROL OF MALARIA

From reports sent out recently from Washington, we learn that the Works Projects Administration is now carrying on much work in ten states and Puerto Rico to aid other governmental agencies to control malaria. These activities should mean much in protecting the soldiers and sailors in training in these areas. Ever since its organization, the WPA has cooperated fully with the health authorities in North Carolina and through its aid many worthwhile projects have been carried out.

From recent press releases we learn that:

"The Army and Navy, the U. S. Public Health Service, and state and local health authorities are cooperating with

SECTION 1. Where any owner or lessee of lands shall cause or permit, by excavation, obstruction of a stream, or otherwise, the accumulation or collection of a body of water upon said lands which would not have formed under natural conditions, or shall permit the continuance of any such body of water already in existence, and where it is discovered that *Anopheles quadrimaculatus* mosquitoes are breeding in such impounded water, or where it is further discovered by blood-slide tests made by State, county or municipal health authorities that one or more persons residing within one mile of such impounded water have malaria, such owner or lessee shall, within 30 days after the receipt of written notice by any State, county or municipal health authority that such conditions exist, take effective measures prescribed by or satisfactory to the North Carolina State Board of Health for the prevention of the breeding of the *Anopheles quadrimaculatus* mosquitoes in the impounded water, or shall remove the impounded water by draining or filling.

SEC. 2. This regulation shall be in full force and effect after its adoption.

SEC. 3. Duly adopted by the State Board of Health in regular meeting assembled, this 21st day of May, 1941.

the WPA in effecting measures for the elimination of malaria mosquitoes in army camps, air bases, naval reservations and areas adjacent thereto.

"Some of the mosquito control work on the Army and Navy reservations proper is being done exclusively by the military services. Army and Navy funds cannot, however, be expended on other than Federal property. The flying range of the malaria mosquito is about a mile, and mosquitoes hatched a mile or so from an encampment can do just as much damage as one hatched within the bounds of the reservation. Malaria mosquitoes make no distinction between Federal property and private property.

"It is on these areas adjacent to reservations that much of the WPA malaria control work is being done. This agency supplies the labor for

(Continued on page 16)

CARD PROPERLY FILLED GIVEN TO MOTHERS IN  
NORTH CAROLINA STATE BOARD OF HEALTH  
WELL BABY CENTERS

## INSTRUCTIONS FOR FEEDING

Name.....Date.....

Age.....Weight .....

### LACTIC ACID COW'S MILK

1 Quart of pasteurized milk (or boiled milk).

3 Tablespoonsful of cane sugar.

1½ Teaspoonful Lactic Acid (U.S.P.).

**DIRECTIONS:** (If milk is not pasteurized, boil it for three minutes.) Add the Lactic Acid drop by drop to the quart of COLD PASTEURIZED (or boiled) milk while stirring constantly to assure thorough mixing. Gradually add sugar while stirring milk.

When baby is seven months old add only two tablespoonsful of sugar to formula, at eight months add only one tablespoonful sugar, and stop using sugar in formula when baby is nine months of age.

Give baby.....ounces of this formula at:

....., ....., ....., A.M. ...., ....., ....., P.M.  
Offer baby boiled water midway between each feeding when infant is awake.

COD-LIVER OIL.....teaspoonsful daily.

ORANGE (or TOMATO) JUICE.....ounces daily.

Your baby should be vaccinated for the following diseases at the age stated below:

Smallpox . . . . .	3 months
Whooping Cough . . . . .	6 to 8 months
Diphtheria . . . . .	6 to 9 months
Typhoid Fever . . . . .	1 year

....., M.D.

**BRING THIS CARD WITH YOU**

**CARD PROPERLY FILLED GIVEN TO MOTHERS IN  
NORTH CAROLINA STATE BOARD OF HEALTH  
WELL BABY CENTERS**

**INSTRUCTIONS FOR FEEDING**

Name.....Date.....

Age.....Weight .....

**LACTIC ACID EVAPORATED MILK FORMULA**

1 Large can evaporated milk (13 oz.) unsweetened.

1 Large can boiled water (13 oz.).

3 Level tablespoonsful cane sugar.

1 Teaspoonful Lactic Acid (U.S.P.).

**DIRECTIONS:** Pour the can of evaporated milk into a quart jar or bottle that has previously been boiled. Fill the empty milk can nearly to the top with boiled water and add the sugar and Lactic Acid. Stir until thoroughly mixed. Let mixture stand until COOL. Pour the COOL water mixture slowly into the bottle containing the milk, shaking constantly to afford thorough mixing.

(This formula contains approximately 30 calories per ounce.)

When baby is seven months old add only two tablespoonsful of sugar to formula, at eight months add only one tablespoonful sugar, and stop using sugar in formula when baby is nine months of age.

Give baby.....ounces of this formula at:

....., ....., A.M. ...., ....., P.M.

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....., M.D.

**BRING THIS CARD WITH YOU**

## WPA AIDING IN CONTROL OF MALARIA

*(Continued from page 13)*

spreading larvicides, digging ditches, clearing underbrush and otherwise destroying larvæ and breeding places.

"Army health officials, authorities of the Public Health Service, and state and local health officials plan, supervise and direct the work, which is carried out after extensive surveys by malaria experts.

"Many of the projects were started early in the spring in order to eliminate breeding places before the insects were hatched. Drainage channels were dug, lateral ditches were excavated, undergrowth was cut away, and, in some instances, machinery and explosives were employed to remove stumps and trees that impeded drainage."

## ENGINEERS JOIN COLORS

Sometime ago Mr. C. D. King, an efficient engineer in the Ceramics Department of the Industrial Hygiene Division of the State Board of Health, accepted a highly attractive offer with increased salary with the Michigan State Board of Health. Just before getting set in the new work he was called to the Army as a reserve officer. Mr. Steven W. Derbyshire, who was employed to succeed Mr. King has just been called back to service in the United States Navy. These are two excellent young men who have the best wishes of their fellows in the State Board of Health.

## WAR ON MOSQUITOES

*(Continued from page 8)*

oiling program in these extra-cantonment areas of North Carolina which is being conducted under the supervision of the North Carolina State Board of Health. About forty laborers in addition to the necessary equipment and supervisory personnel are engaged on this work. Thirteen trucks were lent us by the United States Public Health Service to transport oilers, equipment, and oil. This program is progressing very smoothly.

We believe the war on mosquitoes will be won.



Anne MacDougald Hocutt, daughter of Mr. and Mrs. John Hocutt of Raleigh, and grandniece of Dr. Battle A. Hocutt of Clayton, N. C. This picture was made at the age of ten and one half months, weight 22 pounds.



John D. Faulkner, Jr., son of Mr. and Mrs. John D. Faulkner. Mr. Faulkner is the sanitary engineer in charge of Milk Sanitation. The picture was made when the child was 11 months old, at which time he weighed 27 pounds. He has been reared according to the State Board of Health literature and has never been sick a day in his life.



# The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

**This Bulletin will be sent free to any citizen of the State upon request**

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SEPTEMBER, 1941

No. 9

## TO OUR READERS

The State Board of Health is endeavoring to co-operate to the fullest extent possible with the Federal Government in the program for national defense. The material contribution of the State Board of Health is being directed along the lines of education in nutrition. This is a vital part of the national defense. In this issue we are beginning a series of articles on that general subject. The first contribution is by Dr. Carl V. Reynolds, State Health Officer, and will be found in the following pages. The second contribution will appear in the October number and will be under the subject of "An Adequate Diet," By Dr. D. F. Milam, a member of the International Health Board, working in North Carolina at the present time on this subject. We would like to suggest that our readers preserve each of these copies in order to get the series as a whole, beginning, as stated above, with this number, containing the article by Dr. Reynolds.

Owing to a shortage in white print paper available to the State Board of Health it will be necessary during the war emergency to maintain the Bulletin mailing list at the present maximum. New names will be added only to take the place of other names removed.

THE EDITOR.

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested.

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
Diabetes	Malaria	Typhoid Fever
Diphtheria	Measles	Venereal Diseases
Don't Spit Placards	Pellagra	Vitamins
Eyes	Residential Sewage	Typhoid Placards
Flies	Disposal Plants	Water Supplies
Fly Placards	Sanitary Privies	Whooping Cough

### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months, 2 to 3 years; 3 to 6 years.
Breast Feeding	Instructions for North Carolina Midwives
Infant Care. The Prevention of Infantile Diarrhea	
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# THE Health Bulletin

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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D. *Editor*

## Notes and Comment

By THE EDITOR

**SCHOOL PROBLEMS** ONE more time we come around again to a discussion of school problems. As ever, it is an old story with new angles. This year there is a multiplicity of problems to be dealt with. These matters confront both the teachers and the school system generally, as well as the parents and the public on the other hand. The muddled and unsatisfactory and insecure conditions existing all over the world as these lines are written bring home to every family the many difficulties to be dealt with much more acutely than ever before.

In the first place, we are in the midst of a genuine worldwide war, in the literal sense of the word. Only a miracle can prevent some of the battling taking place eventually on our own continent. No one can feel secure about anything at present. The only anchor to windward for all of us is a new appreciation of the old virtues that means honesty and hard work for all of us with fair dealing toward the other fellow.

If school work this year can be organized so as to get the most out of the opportunities and to contribute the most to the public good, it will be a worthwhile undertaking. Always in the beginning of school there are some problems that are more or less stressed

above all. Back in the days of the World War No. 1, or we might call it the Little World War, which we got into, there was an acute shortage of certain items of food which practically had to be rationed before it was over, such as sugar, for example. On the other extreme, in the days of the administration of Governor Gardner, in 1929-1933, in the bottom of the depression which hit our part of the country with extreme severity, emphasis was placed on a live-at-home program, that is, raising every kind of diversified food at home. Today as never before, however, nutritional problems are being discussed. The whole country has become sufficiently well educated to understand that a large proportion of the people are not sufficiently nourished. Therefore, it is necessary to begin all over again and teach, in view of modern trends, the value and importance of a proper knowledge of nutrition.

In view of the foregoing, we are beginning a series of articles by various authors among our staff members dealing with the practical phases of the nutritional problem. Elsewhere in this issue we have the first of these articles which was a paper prepared by Dr. Reynolds for delivery in one of the farm meetings in the State some time ago. Others will follow which we hope may be helpful.

**DOG HELPS A DEAF PERSON** A friend of ours was telling us the other day of a member of his family who has been extremely deaf for quite a while. This person, as in many cases of deafness, has little trouble in hearing over a telephone. There is something in the electrical transmission of messages over the telephone which seems to overcome completely her handicap of deafness. Her trouble is that she cannot, however, hear the telephone ring even though she were sitting by the desk on which the telephone rested. Living arrangements for her are such that she is often left in the house alone, and a problem of being able to know when the telephone rang was a critical one for her. However, she adopted a plan which we had not heard about before. Having a house dog that she prized very highly, she has trained the dog to come rushing to her and furiously barking the minute the telephone rings. She can, therefore, get up and answer the telephone with complete satisfaction.

We pass this item along for any of our deaf friends who can talk over the telephone but who cannot hear it ring. It might be helpful. At least, it is one useful occupation for a house dog.

\* \* \* \*

**WISHED SHE WAS IN JAIL** For many years part of the duties of the editor of this house organ has been to supervise the work of some of the State Board of Health nurses in the sometimes very hard job of regulating the practice of midwifery, especially in outlying counties in the State that have no health departments. One of our nurses who is evidently a true daughter of Erin (we do not know whether she is Irish or not, but she ought to be) sends us in one of the most human reports we have seen in many a day. This nurse has been

hard at work this summer in at least a half dozen counties, brushing up and brushing off the midwives.

We will stop right here to emphasize this item by illustrating the importance of this work by reminding our readers that in at least 25 percent of all the childbirths occurring in the State, the mothers are attended solely by midwives.

One of the chief thorns in the flesh of our nurses always is dealing with the "bootleg" midwives, that is, those who are too old, too ignorant, too dirty, too diseased to be permitted by the State to carry on this important work for the poor and underprivileged women of the State. Something like ten percent of the births in some counties still continue to be attended by such characters. They will not follow any instruction, they will not use the precautions prescribed by law for the safety of the mother and the baby, in fact, they are law only unto themselves.

In one such aggravated case there is a woman past 80 years of age who had been admonished annually by the nurse on her visits that she must quit work and cease and desist from all attendance on such cases. Recently, the nurse visited this locality again, driving her car as far as she could and then walking the balance of the way. She finally located the old woman who was in worse disarray than ever. The nurse being tired and feeling that she was at the end of her resources simply let loose and gave the old woman the works. After abusing her in every language that a good Irish woman knows, she wound up on getting out of breath with the statement that she wished the old woman was in jail and could never get out. The instantaneous reply from the old woman was, "My Gawd, honey, I wish so, too. Then I wouldn't have to work and could have plenty of vittles."

**TEMPLES OF CLOACINA**

In a recent issue of the *Raleigh News and Observer*, under the general title of "Infant Raleigh," A. T. Dill, Jr., a competent and reputable young newspaperman, presented the results of a day he had recently spent digging up some of the early history of Raleigh. Mr. Dill's article was one of the most interesting to the editor of this publication that he has read in many a day. The highlight of the article criticized the selection of Raleigh as the location for the State Capital back in 1794, and which was embodied in a letter from an individual describing himself as an English traveler. Not since Moses' classic description of sewage disposal methods in his government of the Israelites while traversing the wilderness, as recorded in Deuteronomy, have we seen as interesting description of the temples of Cloacina, meaning to you an ordinary privy.

It seems that this traveler was reporting to someone in England and this made the 79th report from all about over this young country that he had made. The Englishman's letter was first published in the *North Carolina Gazette*, printed by F. X. Martin in New Bern and reprinted and from which reprints it is copied by Mr. Dill in the *North Carolina Journal of Halifax* in its issue of March 12, 1798, all of which is on file in the office of the State Historical Commission where Mr. Dill dug it out.

The letter is too long to reproduce here, but after describing his travels in other parts of the State and other parts of the country in which he compares what he sees in the infant village of Raleigh with considerable disadvantage to the latter, describing the way the town is laid off into squares and the appearance of the State House and the courthouse, etc., he has the following which we pass along to you as an unadulterated classic:

"At the four corners of the public square, are groves which might have been agreeable walks; I thought this

was their design, and seeing a small house in two of them, I took them for summer houses, and began in my mind, to applaud the state for constructing such charming places for the recreation of a people in a warm climate, and going to visit one of them, was arrested in my progress by a terrible stench issuing from four doors, which informed me it was a temple of Cloacina, and was obliged to betake myself to flight and leave these noble appendages of the state house in the sole possession of the grove.

"These temples having deep cavities under them, and being situated higher than the other parts of the town, who [ever] use water from wells are therefore kept in constant circulation, so that as solomon says—"Nothing is lost'."

It will thus be seen that here is a description of the first pit privy ever constructed in the State of North Carolina and it was situated on the corner of the Capitol Square in what is the present City of Raleigh. One purpose we have besides passing along a morsel of good literature is to call attention to the fact that we all know this was the situation in 1798. It was nearly a hundred years afterwards before there was much improvement in the situation, before a public water and sewage system was designed and set up in the Capitol at Raleigh.

Now for the main point, however, and it is this, although we boast today of a city of more than 50,000 people, there is not a public restroom of approved type for the accommodation of the thousands of visitors that visit this town annually anywhere within the corporate limits of Raleigh, although two of the public squares then belonging to the State and presumably still in the State's possession, although used by the city at present, namely, Nash Square and so-called Baptist Square over near the City Market, affords the most ideal location for the establishment of such modern accommodations that could be boasted of in any town in the State.

# The Value of Proper Food

By CARL V. REYNOLDS, M.D.

*North Carolina State Health Officer*

[The following is a copy of a speech which was delivered at the annual farmers' field day exercises held at the Piedmont Test Farm, near Statesville, and constitutes one in a series of articles on the value of nutrition for national defense, which will appear in THE BULLETIN from time to time.—EDITOR.]

THE "all out" National Nutrition Conference has given impetus to a program that we in North Carolina have seen the necessity for, and for which we have an organization to improve.

When we begin to consider the health conditions of our people today, we must recall the past to appreciate the present, and to make preparations for improvements in the future. It is not my purpose to take you from the Babylonian days and bring you up through periods of medical progress to the present time. I bring to your attention, for example, Edward Jenner, who, in 1796, through observation, and by the trial-and-error method, discovered the ways and means through which we have practically eradicated smallpox.

Other outstanding discoverers include:

Pasteur, in 1880, with his treatment for rabies and his germ theory in anthrax.

Laveran, in the same year—the cause of malaria.

Eberth, the cause of typhoid.

Koch, two years later, the cause of tuberculosis.

Klebb and Leffler, 1883, diphtheria.

Walter Reed, 1901, yellow fever.

Ehrlich, 1910, salversan for syphilis.

Each of these contributed to the lowering of morbidity and mortality, and in consequence, the increasing of longevity, until we have now reached the average high of 62 years.

This has been accomplished mostly in the field of infectious diseases—the morbidity and mortality rate of degenerative diseases have not gained much, if any. Who knows but that proper nutrition is the answer?

I recall this wonderful advance to attract your attention to one outstanding thought, which is: That the people of the earth have been fortunate to have had these laboratory and research workers present curative and preventive agents to us for our protection against disease. Yet we have, to a large extent, failed to take advantage of what research and science have made available to us.

## God Built; Man Destroyed

Today, I want to discuss with you a subject that is basic in its importance and to call your attention to the fact that God, in His infinite wisdom, saw fit to give us a complete structure containing all the necessities and elements of life, when He created the world, and then made man sound in mind and body to go forth and make a place for himself. But immediately man began to destroy and rob the earth of its elements and, in consequence, injured his physical well-being. Today, we are too dependent upon curative medicine and preventive medicine to protect us from physical harm, neglecting the most essential of all—the protective agencies—the proper nutrition for our bodies.

Our knowledge of the scientific fundamentals of nutrition, the value of the protective foods — the lack of which causes "deficiency diseases"—as against the foods to supply our energy needs, has advanced to such an extent that we should put our existing knowledge into practice.

It is sound in principal and logical, too, that we should start with sound pronuclei.

From the beginning then, we can supply the needs for structural growth from without to meet the demands within. When the ovum is fertilized by the spermatozoon, life and development in its true sense begins. Through

the growth, multiplication and differentiation of cells, and with each cell or group of cells playing its particular part in the structural growth of the body and its component parts, we build and endure against the invasion of destructive agencies. It is of vast importance that we furnish the embryo the needed requirements for its proper development, and that these needs supplied in the proper environment, that life's functions may be best performed.

### The Task of Rebuilding

As above indicated, we have done much in preventing the preventable, and in curing the curable in infectious diseases, but let's be specific. What have we done in a concerted effort toward preparing our bodies to resist infection through natural forces?

Through dietetics, we can do much in this field, yet scarcely touched. In order to best fortify our bodies we must familiarize ourselves with the qualitative as well as quantitative dietary essentials indicated in the various stages of body needs for development, replacement, and resistance against diseases.

I have recently returned from Washington where there was held a National Nutrition Conference called by President Roosevelt. The importance of this conference can be shown when I remind you that only three such conferences have ever been called by the presidents of the United States. The first was called by Theodore Roosevelt, for the purpose of considering conservation of the nation's resources, including its manpower. Woodrow Wilson called a conference on child welfare, known as the "White House Conference," which was continued by Herbert Hoover; and now, in this hour of crisis, Franklin D. Roosevelt called a National Nutrition Conference for defense, which is new from a nationwide standpoint and will go far to defend America by the adoption of nutritional standards that will build, preserve and make more effective our manpower and womanpower.

In order that we may coördinate and codify a plan for practical use in attacking this nutritional program, we should first familiarize ourselves with conditions.

### Menace of Undernourishment

The conservation of our soils is, of course, basic and imperative, if we produce the proper foods containing the proper elements. The "poor we have with us always," and they should be fed, but we are not all in that class. The startling fact is that statistics show that three fourths of our population are only fairly fed; one fourth poorly fed. Forty percent of our draft selectees were rejected on the grounds of being physically unfit. Eighteen-plus percent of our boys were rejected on account of bad teeth, primarily due to nutritional causes; and, for the same reason, ten percent bad eyes; five percent impaired hearing, nose and throat conditions. This, then, is indeed a challenge to us all and injects a great big interrogation point as to our intelligence or indifference in regard to the maintenance of our physical welfare.

When, oh when, may I ask, will we start to prevent such a catastrophe rather than to wait for the catastrophe to prove our errors?

What are we to do about it?

### We Have the Answer

First, we must coördinate our efforts, starting with the soil. It is a challenge to (a) our farmers; (b) to our processors; (c) to our distributors, and finally to our consumers. The farmer, the processor and the distributor should all have a fair return, but none should be allowed to profiteer.

There is today, in my opinion, too great a differential between the farmer and the consumer. This is an injustice to the farmer and unfair and prohibitive to the consumer. Claud R. Wickard says, "Farmers can fare well only if the nation can eat well."

Through proper diet, we can eradicate pellagra, beriberi, rickets, scurvy, and aid greatly in our fight against tuberculosis.

Devitalizing flour, sugar and salt to appease the faddist, is really robbing the body of 55 percent of its energy needs. (Henry A. Wallace, Vice-President.)

We have not only devitalized our land, but have added insult to injury by devitalizing our essential foods at the expense of our bodies.

As previously stated, as a population, we are poorly and inadequately fed.

To supply the needs, we should produce, according to statistics, 100 percent more vegetables and fruits; 70 percent more tomatoes; 35 percent more eggs; 20 percent more milk, and 15 percent more butter—our protective foods.

The answer is, down with the excessive production of wheat, cotton, and possibly tobacco, and up with your production of your protective foods! In so doing, we will restore our impoverished pocketbooks and at the same time revitalize manpower by improving him morally, mentally and physically.

### The Necessary Procedure

How are we going to increase consumption to justify the farmer of this diversified farming?

There are several ways:

1. Through the surplus market administration.

2. Free lunches in schools, provided by surplus commodities. And, just here may I tell you that five million of our school children today are having one good meal per school day. In North Carolina, the maximum number of children fed at school lunches were 200,000 during the month of April, this year, and food could have been available for 675,000 of these undernourished school children.

3. Six of our larger cities in our United States are now supplying low-cost milk to the indigent coming from the use of surplus milk, at a cost of five to six cents per quart.

4. Under the food stamp plan, four million of our people have been served. By this means it accomplishes two needs: (a) supplies the nutritional needs to the needy; (b) it is economically advantageous to the farmer. The farmer should have his profit and the "middle man"—or men—should not rob him, as they do today. The differential between the producer and the consumer—I should like to emphasize this—in my mind, is that it acts as a two-edged sword, cutting the throats of the farmer and the consumer to the overwhelming advantage of the distributor. This condition should not be tolerated when it is destroying our manhood and womanhood.

The farmers know, and they can evaluate the importance of the ingredients of the soil needed to produce their diversified products. Man is wonderfully and marvelously made and surely every man, woman and child should have sufficient elementary knowledge of food values to supply the needs of their bodies.

### Classes of Food

Foods are divided into two great classes — protective foods and energy foods. It is important that we should differentiate as to the use of protective foods, namely: (1) green vegetables, milk and fruit; (2) energy foods—carbohydrates and fats; (3) the body-building foods—proteins, meats, etc., and the essential needs for certain specific vitamins to maintain our normal balanced metabolism. We must know what foods and what vitamins and the amount to maintain a proper food intake or level.

It is interesting to be able to sit at the table and name the use of the foods presented for your consumption and to realize and appreciate the amount needed of each food, in calories, for body development, replacement and resistance to disease. Vitamins are in the forefront today, but few of us realize that these chemical elements are not foods, but each vitamin, A, B, C, D, E. and K, have their specific function in specific amounts, in each food to be used as it were a "spark plug" necessary to start and maintain our normal balanced metabolism.

The extent of any deficiency of the necessary vitamin content will cause an unbalanced metabolism, which, in turn, will cause an improper assimilation of the food stuff which will result in the nonfunctioning of the organs in the body that need this particular food for their particular function—the end results being a "hollow hunger" and a "hidden hunger"—the "hollow hunger" being insufficient food and the "hidden hunger," the most devastating of all, is caused by eating foods sufficient in quantity but lacking in the essentials that are needed for the maintenance of the body.

### The Opportunity is Ours

We have an opportunity today, through the cooperation of the Federal Government, in its "all out" defense program that comes to us only once in a lifetime, and we should take advantage of it. Should we be called to the "colors" it is of paramount importance that the individual become physically fit before he offers himself for the services of his country either in the mili-

tary or industrial bases. It is only through physical fitness that we have the mental alertness, the healthy eye, and the physical endurance to make the quick decisions necessary for the successful prosecution of a war, and then prosecute these decisions. If we must fight to preserve our heritage, let us man our machines of war with men whose eyes are clear, whose hands are steady and whose nerves are of iron.

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## Public Health for the Worker\*

By J. G. TOWNSEND, *Medical Director*

U. S. Public Health Service

THE condition and life of the industrial worker has socially and historically been one of the primary problems of national health. The development of modern industry brought man into close contact with physical and chemical forces of tremendous potency, and affected the people's health not only directly through the process of production, but also indirectly by creating certain living conditions. . . .

As the magnitude and complexity of the problems created by the development of industry have increased, certain social mechanisms have been evolved to alleviate or solve these problems. . . .

### Scope of the Problem

Industrial hygiene may be defined as the science of the preservation of the health of workers. It, therefore, involves a program which necessarily extends beyond the prevention of accidents and occupational diseases to include the general health of the worker. It is obvious that some of the problems arise from the nature of the industrial environment itself—namely, the control of poisons, dusts, excessive temperatures and humidities, defective lighting, noise, overcrowding and general plant sanitation. They also include such factors as hours of work, fatigue, communicable diseases in the factory, mental health and personal hygiene.

Although in the past, industrial hygienists have concentrated their efforts on the control of certain health hazards in the manufacturing, mechanical and mineral industries, it is well known

that health problems worthy of attention also exist in other occupational pursuits. According to the last Federal census, the total labor force of the United States is 52,000,000 persons. Obviously the health problems of a group which comprises such a large proportion of our total population are of tremendous importance to those persons and agencies concerned with public health in general. Furthermore, when we realize that practically all the remaining population is dependent upon these 52,000,000 workers for their existence, and that the health of all may be affected by the health status of the gainful worker, then, indeed, industrial hygiene takes on an importance heretofore not recognized.

In order to plan and execute intelligently the necessary measures for the protection and improvement of the health of workers, it is necessary to evaluate the present health status of workers, that is, the incidence of industrial accidents and occupational diseases and the excessive frequency of other diseases in any occupational group. Such an evaluation shows that despite years of continued improvement in industrial hygiene, industrial accidents in the United States still cause 17,000 deaths, 75,000 permanent, and 1,400,000 temporary disabilities annually. Recent surveys of industrial plants throughout the nation show that more than 1,000,000 persons are engaged in work where industrial dusts can create a serious health hazard under certain

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\*A condensation of a paper presented at the South Carolina Public Health Association meeting, May 26, 1941, Myrtle Beach, South Carolina.

conditions, nearly 1,000,000 persons are handling lead and its compounds, and another 50,000 are using mercury and its compounds. In addition, many millions of workers are exposed to materials which may produce disabling skin diseases.

Of greatest significance, however, is the enormous waste of life and efficiency resulting from nonindustrial illness among workers. As a matter of fact, the amount of time lost from work, because of ordinary illnesses, is 15 times as great as the total time lost due to accidents and occupational diseases combined. It has also been demonstrated that industrial workers have a higher rate of physical defects than do non-industrial workers, and that excessive mortality is especially notable among unskilled employees, whose death rate from all causes is 100 percent or more in excess of the rate among agricultural workers. . . .

One of the primary stimuli to the introduction of more adequate medical services in industry has been the passage of workmen's compensation laws for accidents and occupational diseases. Today, all but one state have laws providing benefits in the event of accidental injury, and 24 of these states have enacted legislation compensating workers for one or more occupational diseases.

Responsibility for safeguarding the health of our workers rests chiefly with state and local government. . . .

In the period elapsing since the passage of the Social Security Act, the development of industrial hygiene has been rapid; today, 32 states and several cities have industrial hygiene services. If our progress continues at the same pace, it may in time attain a level commensurate with its value to the national economy.

In spite of the great progress in industrial hygiene during the past few years, the results of a recent survey of some 17,000 establishments employing nearly 1,500,000 workers in 15 states clearly indicate the need for a more effective and adequate program in industrial hygiene. When we realize that only one fourth of the workers in the plants surveyed had the services of a full-time safety director, that only 15

percent were provided with a plant physician, and about one third with a full-time plant nurse, then we are brought face to face with the fact that our provisions for maintaining and improving the health of workers are far from adequate. . . .

From all of the information presented thus far, it should be apparent that and protection and improvement of the health of our workers should be an integral and indispensable part of a public health program. . . . It is also evident that it will be necessary not only to control unhealthful conditions in the working environment, but also to give consideration to such factors as proper living conditions, elimination of strain and hurry, nutrition and communicable diseases; in fact, to a general adult health program for workers. A broad industrial health program of this character, to progress satisfactorily, must be closely interwoven with existing public health activities and with the activities of many other official and nonofficial agencies concerned with the various aspects of industrial health.

### A Program for An Official State Agency

Earlier in this discussion, it was shown that today there are 32 state health departments and several cities and territories active in the field of industrial hygiene. In assisting the states in the development of their programs, the Public Health Service has advocated the following functions:

1. Consultation with plant management regarding needed corrections of environmental conditions.
2. Advice to the management and medical supervisor as to the relative toxicity of materials or processes, and advice concerning new materials prior to their introduction into the industry.
3. Assistance in developing, maintaining and analyzing absenteeism records.
4. Consultant service to medical supervisors, private physicians, compensation authorities and other state agencies regarding illness affecting workers.
5. Provision of necessary laboratory service of both a clinical and a physical nature.

6. Integration of the activities of other public health bureaus in their programs for workers; for example, the control of cancer, syphilis and tuberculosis. . . .

*Interdepartmental Relationships*—Excellent interdepartmental relationships for the promotion of industrial hygiene activities now exist in a number of states, and notably in such states as California, Wisconsin, North Carolina, Rhode Island and Idaho. For example, in the State of California, the industrial accident commission furnishes the industrial hygiene service of the State Health Department with copies of all occupational diseases reportable by law to the former agency. These are investigated by the Health Department. In addition, the factory inspectors of the commission call upon the industrial hygiene service of the Health Department to make technical investigations of potential health hazards in industry. Written copies of the results of such investigations are furnished to the industrial accident commission for action, since it is this latter agency which is charged by law to enforce rules and regulations designed for the protection of the health of workers. Practically identical relationships exist in Wisconsin.

In North Carolina, the occupational disease law provides that the industrial commission shall adjudicate the law and shall make investigations of health hazards in certain industries where a silicosis and asbestosis hazard exists. In these industries, preemployment and periodic examinations are required by law. The industrial commission has designated the North Carolina State Board of Health as its agent, and all investigations and physical examinations are conducted either by the State Department of Health, or under its supervision. Furthermore, the director of the industrial hygiene division of the State Department of Health of North Carolina is also the chairman of the medical board of the industrial commission. This close relationship between the two agencies most concerned with industrial hygiene activities in North Carolina has resulted in an excellent program of control of health hazards in industry.

*Integrated Services*—With reference to the integration of industrial hygiene services with other public health activities in a state department of health, some progress has been accomplished, but still much remains to be done. Many of our health departments have limited the scope of their activities. It is realized, of course, that the primary function of a health department is the control of communicable diseases. There is no reason, however, why the scope of health work in this country should not be extended to include the prevention of chronic diseases. There is ample justification for such efforts. For example, it has recently been shown that the first ten causes of death account for more than 79 percent of all deaths. Against only one, tuberculosis, have health departments in the past taken specific action. It is only in the last few years that any action has been taken with reference to some of the other leading causes of death. By contrast, the communicable diseases, on which most of our efforts are still directed, account for only three percent of the mortality in this country. If illness be used as a measure of needed services, then health departments should concentrate on upper respiratory diseases and digestive disorders. It would seem, therefore, that by approaching the adult health problem through industrial hygiene, emphasis will be given to those conditions now in need of evaluation and correction.

### **Public Health Approach to Industrial Hygiene Problems**

At the present time, most state industrial hygiene units employ a very small number of personnel, usually a physician, an engineer, a chemist and a secretary. Here in South Carolina I understand that the industrial hygiene division consists of a physician, an engineer and a secretary. It should be evident that if all the factors influencing the health of our workers are to be considered, then it is necessary to draft all the resources at the disposal of a department of health as has been done in the example cited above. . . .

There is no reason why health departments cannot carry on a program of nutrition, venereal disease, tuberculosis or malaria control through the industrial groups. Malaria, for example, causes a loss of 14 days per year per

man in Southern industry, and according to some estimates is responsible for a reduction in the industrial output of the South by one third.

By approaching the problems of adult health through the medium of the factory, health department will be practicing effective public health among a vast number of people. At present such programs employ the home as a means of contact. . . .

In closing this discussion, it is desired to emphasize that our problems in industrial hygiene will be constantly increasing, rather than diminishing, in

spite of all our efforts in the field. This is largely due to the fact that added responsibilities are given to administrators due to a variety of causes. Increased mechanization in industries, the use of old and new chemical compounds in many industrial processes, the responsibilities given us by legislation, and those which have arisen out of the defense program, all of these factors and many more too numerous to mention, will add greatly to the burden of industrial hygienists in the future. It is essential that we continue to develop and broaden our programs in order to meet these exigencies as they arise.

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## Health Program of Badin Public School

By P. M. DULIN, *Principal*

A FEW years ago when the State course of study was revised, the fact that health heads the list of aims that our State Board of Education has made for the public schools of the State gave us teachers quite a jolt, not because it is the first aim, but because it had not always been first.

Although health training wasn't new in the Badin School the action of the State Board placed new emphasis upon an old drive, resulting in increased activities toward healthy living. Nor was this a difficult task in an industrial town where "first aid" and "safety first" have become important factors either directly or indirectly in every home in Badin and where children have grown accustomed to using the hospital as a preventive as well as curative measure. Thus this emphasized health idea met with ready response by pupil and parent.

For the past ten years our health program has covered every phase of healthy living, each year expanding to more adequately meet group and individual needs. As a school the children are ever alert for new ideas, frequently introducing them themselves. Last fall the square dance was taught to a group of high school students for its exercise and recreational value to the adolescent child. Within a few weeks the dance was learned by every high school pupil, spreading through elementary school and down through the third grade.

Even rainy days lost most of their gloom for the grade which could claim the recreation room and dance during health period.

The entire year was characterized by great enthusiasm on the part of pupils and teachers, several chapel programs were selected by the children as their first choice for presentation. Naturally when it came time for selecting a commencement program, health was uppermost in the minds of pupils and teachers, therefore the pageant: "Visitors from Mars," from *Dramatizing Child Health*, by Hallock, was selected as a nucleus around which each grade was to present some phase of its health activities for this year. This in general is the idea around which the program took shape.

### Scene I

An open-air health demonstration in Health Town. The mayor, health inspector and nurse marched to an elevated stage to the accompaniment of the health band, followed by the health chorus which was seated to the back of the stage. A radio signal announced the arrival by airplane of a delegation from Mars to study health conditions on earth. The visitors arrived and after the welcome the following health demonstrations were presented:

*First Grade*—Children wearing pink and blue pajamas suggested rest. With song and dance they demonstrated personal cleanliness, dental care and tidiness.

*Second Grade*—These children showed the advantages of clean surroundings with their watering pots and broom dance.

*Third and Fourth Grades*—Gave a selection of wholesome fruits and vegetables with their costumes and country dance.

*Fifth Grade*—Clearly demonstrated the advantages of milk in the diet over tea or coffee with a milk-bottle drill.

*Sixth Grade*—Members of the health band and chorus.

*Seventh Grade*—In clown costumes, appliqued with pictures of wholesome foods, these students contributed health stunts.

*High School*—These pupils took part in the chorus, May pole dance and the square dance. It might be interesting to note that participation was voluntary. The boys in the square dance were for the most part athletes, boys who in most cases consider such activities "sissy" but in this case were eager to participate and really enjoyed themselves while doing it.

## Scene II

The visitors asked for volunteers to help organize a similar health program on Mars. They went back to Mars, accompanied by the volunteers.

Thus our commencement program was the outgrowth of the health program in our school work, reorganized for public presentation.

The effectiveness of any activity can be measured only in terms of desirable results, of which we are reaping a most satisfactory harvest.

In the first place there is a steadily growing improvement in the mental set-up or the morals of our school. True sportsmanship is carrying over in school work and junior citizenship, which is furnishing a substantial base for teacher-parent-pupil achievement. "John made an A and I'm as good as John; why didn't I make A?" has become an almost obsolete expression. More often a child will say, "Daddy is going to be angry when he sees my report, but I deserved it."

Another noticeable and very gratifying result is the spirit of true democracy which is most pronounced among our boys and girls. Regardless of social or financial considerations, the test for popularity is largely one of real values. This attitude is serving a real purpose in eliminating "misfit" complexes on the part of some pupils, in many instances enabling children marked for adolescent problems to smoothly and successfully pass this period without ill effects.

Improved attendance is another by-product of our health program. Children like to play too well to miss the opportunity unless it is necessary and the marked improvement in health does not necessitate absences often. Notwithstanding the severity of the past winter, at no time did we approach anything like a school epidemic.

The social and recreational values of health training are a much-sought-after advantage. It may well be said in connection with school children, "An idle brain is the devil's workshop." Any provision for the utilization of that effervescent child-energy is going a long way toward character building. We are most happy because our children use spare time constructively.

Last and best of all there is a strong, coöperative health consciousness among our pupils which is finding a workable

response in the home. No longer do children wait for the regular morning inspection for the teacher to find that scratched knee, carefully covered up with pulled-down trouser leg, lest it be discovered and treated, but they bring their injuries to the teacher for advice or treatment. Each grade welcomes the visits of the county doctor, nurse and dentist. They weigh and measure themselves, ever striving to keep physically fit. The former bread-and-jelly lunch has been relegated with horse-and-buggy days, even a first grade child can plan a wholesome lunch. We feel that this coöperation on the part of children is making for well-grounded life values.

Needless to say that study habits and scholastic achievements follow in the wake of the healthy child.

In our efforts to make health of paramount importance in our school curriculum, we have gone far, but we yet have far to go and are making more and better plans in our drive toward "A sound mind in a sound body."

## INTERESTING REPORT FROM WASHINGTON COUNTY

Miss Cora Beam, one of the veteran school nurses on the staff of the State Board of Health, worked in Washington County for several weeks last winter under the general direction of the School Coördinating Health Unit of the State Board of Health. Miss Beam has submitted to us a definite report following the examination of school children in that county for intestinal parasites during the winter of 1940 and 1941. Most of this work was done by Miss Beam and by Dr. S. V. Lewis, the district health officer. Dr. Lewis had the microscopic examinations made and exercised general supervision of the work. It is an interesting report

and we hope will be looked over carefully by all principals and health officers soon after the beginning of schools this month.

The most striking bit of information in the report, of course, is the indication of a very low degree of hookworm infection. This is most gratifying. The report follows:

### Elementary School Children Examined for Intestinal Parasites 1940-1941

#### WHITE CHILDREN

Number Examined:	Positive Findings:	
646	133 or 20%	
	Positive	Negative
Hookworms	43 or 7%	93 %
Ascaris (Roundworms)	80 or 13%	87 %
Trichuris (Whipworms)	6 or 1%	99 %
Tapeworms	4 or ½%	99½%
Total Infestation	133 or 20%	80 %

#### COLORED CHILDREN

Number Examined:	Positive Findings:	
1,019	477 or 46%	
	Positive	Negative
Hookworms	9 or 0.9%	99.1%
Ascaris (Roundworms)	403 or 40 %	60 %
Trichuris (Whipworms)	71 or 7 %	93 %
Total Infestation	483 or 47 %	53 %

#### SUMMARY

Total Examined: 1,665.  
Total White Examined: 646 or 38.8%.  
Total Colored Examined: 1,019 or 61.2%.

## AMERICAN PSYCHIATRIC ASSOCIATION IS HONORED

The above mentioned organization, at its recent meeting in Richmond with 15 hundred physicians present from all sections of the country, honored itself in unanimously electing Dr. James K. Hall, of Richmond, Virginia, formerly of Iredell County, North Carolina, to the presidency of the Association this year.

This organization of medical specialists probably comprises a group of the ablest men in the medical profession in the world. In Dr. Hall as head of the organization, they have a president who will reflect but honor on the Association. Dr. Hall is an unusual man. One of the greatest privileges the editor of *THE HEALTH BULLETIN* has is to be able to claim friendship with Dr. Hall. It used to be said that the man who had the affection and confidence of children and dogs would do to trust. We have for a long time felt like adding to this old truism another for the physicians of this section of the country, and that is, for the physician who can claim the friendship of Dr. Hall, it may be said without argument that such a physician may be trusted by the humblest citizen.

Dr. Hall is a many-sided man, but the chief quality in his make-up is that indefinable thing called character, not the least of which is honesty, intellectual and moral honesty. Dr. Hall, in his great life work of dealing with victims of habit-forming drugs, including alcohol, has been in a position to see many of the frailties of human life. He has also been in a position to see the cruel and inhuman lust for money on the part of commercial interests which cost so many of these victims their health and lives. He has been always fearless in his opposition to the support of such interests by the public, government and people as well.

We offer our congratulations, of course, to Dr. Hall, but in larger volume to the Association which has had the good sense to put a man at its head which will reflect so much honor upon the entire organization.

## **BETTER QUARTERS FOR RICHMOND CO. HEALTH DEPT. IS RECOMMENDED**

Miss Flora Ray, one of our staff department nurses, has sent us a clipping from a Richmond County paper. The name of the paper or the date of publication was not mentioned, but evidently from a Rockingham paper in a late July issue.

The significance of the clipping to the editor of *THE HEALTH BULLETIN* lies in the fact that so far as he knows, this is the first instance in this State in which a grand jury has voluntarily and of its own accord criticised a situation which has been all too prevalent in too many counties in the State for several years and that is the inadequate and dirty and disgraceful quarters assigned to many health departments. We realize that public health work is young and that space for public service offices is very limited everywhere, but almost invariably we have observed that where a county board feels the urge to provide better quarters and where they have a health officer who bestirs himself to get better quarters, it is generally arranged. One of the latest illustrations of this point is the excellent quarters now housing the Edgemcombe County Health Department at Tarboro. After several years dividing the stairway and the cubbyholes and the cloakroom of the courthouse auditorium, Dr. McDowell secured excellent quarters in the bright, clean, new, airy Community Building.

As this is a Richmond County story, however, we can do no better than quote

the Rockingham paper's news report of the grand jury action, which follows:

"Richmond County's health department was called 'one of the most shameful, inadequately equipped health clinics that a progressive county could possibly have' by the grand jury in their regular quarterly report given Judge J. W. Pless, Jr., here today.

"The new grand jury made several recommendations in regard to the department and named a special committee to meet with the county commissioners on August 4 to suggest remedies.

"The personnel of the health department were commended by the grand jury at the same time for the 'fine work' they were doing with this poor equipment.

"The jury said that the poor people of the county who were forced to depend on this free service were being denied the 'bare essentials of medical care.' It was pointed out that the health department here was located in one large room in the basement of the courthouse, a room which had been divided into four by beaver-board partitions. Two of these smaller rooms did not have windows, even, the jury charged.

"It was also noted by the jury that very little modern equipment was on hand for the use of the personnel of the department. They said that there was no hot water connection and only one sink, with a cold-water faucet.

"It was recommended by the jury that the offices of the farm agent be switched with the health department and that the farm agent also use the rooms now used for the FSA office and book repair department."

Our comment on the above is that with the attitude of the county grand jury, representative as it is of all sections of the county, manifested in this recommendation, the people of Richmond County need not worry about the character of the public health work which will be rendered in that county from now on. We would like to congratulate Dr. McFadyen, the health officer, the grand jury and Judge Pless for this forward-looking report and to say that we feel quite sure that the Richmond County Board of Commissioners will prove to be equally as progressive in arranging for better quarters for the health department.

## FEDERAL CIVIL SERVICE POSITIONS OPEN

The United States Civil Service Commission of Washington, D. C., states that the demand for qualified persons to fill medical positions in the government grows faster than the supply. The Commission desires to secure wide publicity concerning an opening for a junior medical officer which will be open until November 15, 1941.

Full information about the qualifications necessary to have, the date and place of the examination and all other information about it may be obtained by writing the United States Civil Service Commission, Washington, D. C.

## Meaning of the Terms "Cold Blooded" and "Warm Blooded"

Explaining the meaning of the terms "cold blooded" and "warm blooded" in their relation to cold endurance, *Hygeia, The Health Magazine*, says: "These are popular terms but they do not mean what they say. Warm-blooded animals are those whose body temperature is maintained at the same level regardless of outside temperatures. A better name for them would be 'constant temperature animals.'

"Cold-blooded animals are those whose temperature varies with the environment. They are able to sustain life in cold weather by adapting themselves to the low temperature through a variation of body temperature to correspond with the outside temperature. In cold weather they will be sluggish and in some instances appear to be dead.

"Among human beings differences in ability to withstand cold are determined in part by the amount of fat immediately under the skin. Because they are better equipped in this respect, women withstand cold better than men. In general, fat individuals feel the cold less than lean persons. Another factor is the rate at which body chemistry proceeds. This is governed largely by the thyroid gland."



# The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

**This Bulletin will be sent free to any citizen of the State upon request**

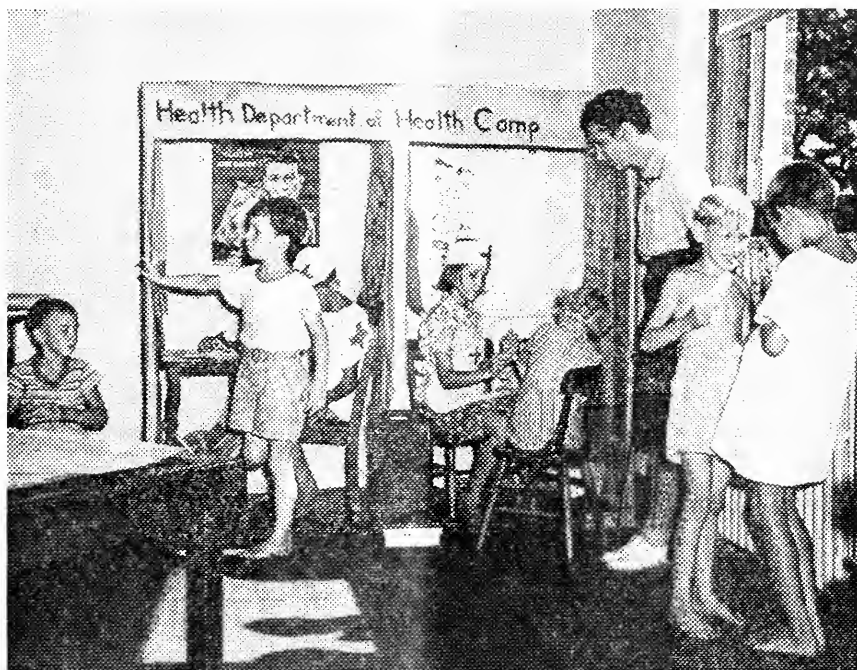
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OCTOBER, 1941

No. 10



—Photo by Patterson.

## MORNING INSPECTION IN THE HEALTH CAMP

A group of children at a Health Camp which was conducted in connection with the Child Health Conference held at the School of Public Health of the University of North Carolina from July 21 to August 27. The teacher is Miss Mildred Jackson of the Clinton Public Schools.

The Child Health Conference was sponsored by the School Health Coordinating Service and was attended by teachers, principals, superintendents and other education and health leaders from nine southern states.

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
Diabetes	Malaria	Typhoid Fever
Diphtheria	Measles	Venereal Diseases
Don't Spit Placards	Pellagra	Vitamins
Eyes	Residential Sewage	Typhoid Placards
Flies	Disposal Plants	Water Supplies
Fly Placards	Sanitary Privies	Whooping Cough

### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 Months ;
Prenatal Letters (series of nine monthly letters)	5 to 6 months ; 7, 8, and 9 months ; 10, 11, and 12 months ; 1 year to 19 months ; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months ; 12 to 15 months ;
Breast Feeding	15 to 24 months, 2 to 3 years ; 3 to 6 years.
Infant Care. The Prevention of Infantile Diarrhea	Instructions for North Carolina Midwives
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# THE Health Bulletin

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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D. *Editor*

## An Adequate Diet

By D. F. MILAM, M.D.

IF every person in North Carolina had an adequate diet what a Utopia we would have. Our contribution to the national effort could then be at its maximum which is what it cannot now be because so many of our citizens are running at only a fraction of their capabilities due to the dragging effect of inadequate diet.

Now inadequate diets are of two kinds: first, there is the inadequacy in amount that goes with poverty, or famine, and this is an economic and political problem; if it is due to sickness it is a medical problem. This condition has been named *hollow hunger* and that aptly describes it.

But there is a second kind of inadequacy in diet which has been aptly named *hidden hunger*. Here, a person may have the appearance of being well fed, but is actually well fed only as to amount of food eaten. The *kind* of food a person eats is now known to be of equal importance to health and well being as is the amount he eats. This does not mean that it is the expensive foods that are necessary to health. On the contrary, many of the finest foods are among the cheapest; that is, if you live where you can have a garden to grow them, or have access to a produce market where they are sold reasonably. Such foods are turnip greens, mustard

greens, collards, tomatoes, squash, all contributing to health in a way that is missed by one who lives on fatback, cornbread, biscuit and molasses. Some essential foods may be a bit more expensive, especially in cities, but with a large variety to choose from the season's bargains can be selected with assurance that any one is adequate for its particular class. Such foods are lean meat (especially beef and ham), poultry, fish, and dairy products like milk and cheese.

At this point it is helpful to give a simple classification of foods that enables a person to judge whether he is getting an adequate diet or not. There are three classes of foods which are essential to health:

First, there are the *body-building* foods. These are foods that repair broken-down parts of the body, which means not only the cuts and bruises that we can see, but also that daily wear and tear that goes with ordinary living. Every day thousands of cells, of which the body is composed, have to be replaced by new cells. These grow from the older cells. But the material necessary for their growth is protein (a word which means "first," that is, the essential food). Now protein is found in lean meats, milk and cheese, poultry and fish, eggs, and to a less

satisfactory degree in peas and beans. These foods are essential to health—not all of them in any one day, but some one of them daily in amounts sufficient to take care of the body's need for repair. The best procedure is to vary the foods chosen from this group from day to day. Beans, especially dried beans, and peas are the least valuable of this group because they are not as well utilized by the body as are the foods of animal origin; and also may be hard to digest. And milk alone should not be relied on except in the very young infants, and in the sick for short periods.

Now if the individual is a child and needs not only to repair the day's wear and tear on his tissues, but must also grow prodigiously in height and weight (as well as understanding), such a one has immensely more need for these body-building foods. The child's needs for his smaller body may surpass the man's needs, and the teen age boy who grows so rapidly and expends so much energy (both usefully and uselessly) is quite likely to outdistance all competitors at the table. This kind of need is not taken care of adequately by dried white foods. Fatback, cornbread and molasses may supply fuel for his restless energy, but they will not adequately supply his need for materials to build a big and sound body.

There is a second class of foods that is equally important to life and health, but in a very different way. These are the so-called *protective foods*. These protect us from that *hidden hunger* that comes from inadequate intake of vitamins and mineral salts. Now vitamins (and there are many of them) and minerals are apt to be absent from many of our staple foods, or present in amounts too small to supply our needs in the quantities usually eaten. Such staples are white bread and cornbread

(as at present milled), fat meat, grits, syrup, cooked potatoes. It is a fact that when our diet is largely limited to colorless white foods we are missing many of the essentials of diet. The health protectors are the green and yellow vegetables, fruits, and melons, which contain so many of the essential vitamins. To these health protectors must be added milk, which is a protector of high order as well as a body builder. Many inadequacies of a diet are eliminated (made up for) when milk is added. Milk is also the best source of those essential minerals that go into bone building, hence its extreme importance to the growing body. One point about fruits is that they should be eaten raw to get the life-giving quality that lies in them. Vegetables should be eaten both raw and cooked. A green leafy salad, such as lettuce or cabbage or cress, should be eaten once or twice daily. Cooked greens also supply many of the protective elements, and if the pot liquor is also eaten, supply also the bone-building mineral salts.

The third class of foods in our list consists of the *energy foods*, the absence of which leads to the so-called *hollow hunger*. To some degree all foods belong to this class since all furnish some energy. But certain ones are useful only or chiefly for their energy-producing power. Such foods are most fats, sugars, and starches. In this class are white breads, cooked potatoes, grits, molasses, fat meats, puddings, etc. A fat which is definitely not in this group is butter, which is one of our best sources of Vitamin A, the growth vitamin. Whole wheat breads and cereals also stand outside this group since they, amongst other uses, are rich sources of the famous Vitamin B<sub>1</sub> which is so essential to healthy nerves. The energy foods seem to be the first desire of the hungry man. In general we do not

worry much about this class since practically everybody eats too much rather than too little of this group of foods. In countries afflicted with drought and famine, pestilences and war, these basic energy needs become the outstanding ones, and the *hollow hunger* demands are paramount.

Now to sum up, we can get our daily needs of the three essential classes of foods by following a few simple guides. In these guides we have put the protective foods and the body-building foods. Energy foods can be added according to taste or purse. If the essentials listed in these guides are secured the *hidden hunger* will be taken care of. Of course, infants and children have an especial need for Vitamin D which is supplied by codliver oil and sunshine; and the sick have special needs which only special care can answer. For the rest the following guides will insure an adequate diet:

#### Guides for Obtaining An Adequate Diet

1. *Eat at least one serving of a body-building food each day.* This usually means a serving of lean meat, eggs, or some dairy product such as milk or cheese.
2. *For best of health each adult should drink a pint of milk each day, each child a quart.*
3. *Eat a serving of at least two vegetables daily (besides potatoes).* One of them a leafy or other raw vegetable. Such vegetables are lettuce, tomato, cabbage, carrots.
4. *Eat fresh fruit at least once a day.* A slogan paraphrases this: "For health grade A eat fruit each day." Fruit juices at breakfast are a usual method of meeting the fruit requirement. Tomato juice, commercially canned, or home canned by the cold-pack process, is an acceptable substitute.

5. *Eat whole-grain bread and a serving of whole-grain cereal once daily.*

And finally, a single sentence may be taken as a condensation of this whole matter. It is this: A varied diet is the best assurance of an adequate diet.

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### DR. FELLOWS AND MR. ABELL LEAVE THE N. C. BOARD OF HEALTH

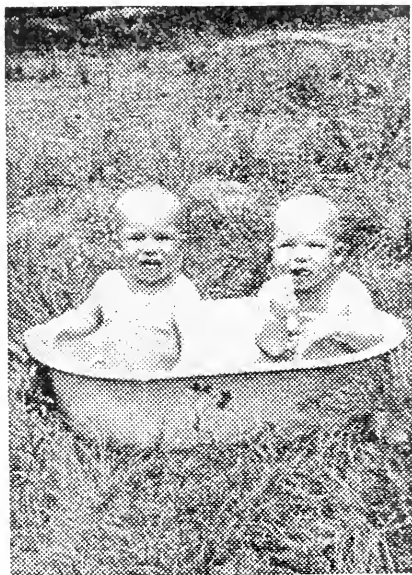
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Recently Dr. F. S. Fellows of the U. S. Public Health Service, who had been stationed with the North Carolina Board of Health for about three years, was transferred to New Orleans for work with the national organization in that territory. Dr. Fellows had aided materially while in North Carolina in the establishment of the venereal disease control work. While with the North Carolina State Board of Health as a consultant, he was attached to the Department of Epidemiology, headed by Dr. J. C. Knox. Together they had worked out a very efficient system of clinical service with the necessary follow-up work towards the eventual control and elimination of venereal diseases. Congress had made provision for the expenditure of considerable money in this work; and, about the time Dr. Fellows came with the Board, the Reynolds Foundation made its appropriation to the Board work to aid in carrying on this program. Dr. Fellows made many friends while in this State who will regret that the Public Health Service found it necessary to send him to other fields of work. The best wishes of a great number of health workers in North Carolina go along with Dr. Fellows and his family in their new field.

Recently Mr. D. F. Abell, who has been assistant director of the Division of Sanitary Engineering on the State

(Continued on Page Eleven)

## HARRILL AND CARROLL LYNCH, BABIES OF MR. AND MRS. HENRY LYNCH



The picture of the twin babies of Mr. and Mrs. Henry Lynch of Mill Springs, Route No. 1, Polk County, appearing above was sent to us recently by the mother. Mrs. Lynch's letter is so graphic and human and represents the feeling of hundreds and perhaps thousands of families in this State toward the work of the Maternal and Child Health Division of the State Board of Health, and illustrates so well the vision held by the editor of *THE HEALTH BULLETIN* throughout the years that we are publishing it almost as she wrote it. We are glad to publish this little photograph. In the first place it is a rather unusual picture and presents a somewhat unusual occurrence in that these babies are twins but were born twenty-five hours apart. The mother evidently had profited by the careful reading of the literature as she says she had done during the

months and years prior to the birth of the twins. She also evidently had competent medical attention; hence, that combination not only saved her own life and the lives of the babies, but also assured them all of health and happiness. For nearly two decades as editor of *THE HEALTH BULLETIN*, we have visualized such people as these in every line we have ever put in *THE HEALTH BULLETIN*. They represent the very best of the citizenship of this State, the kind of people who make this State a great state and one in which we are all proud to live. These are farm people, living far up in the hills and valleys of Polk County, out on a rural free delivery mail route from Mill Springs, a small village in that county. We consider Mrs. Lynch's contribution with the babies' picture a valuable addition to this issue; but let's listen to her tell about the babies which she does in the following extract from her letter:

"I got my *HEALTH BULLETIN* yesterday, and the twins' picture on the front cover (that is the August issue) interested me so much that I determined to send you the picture of our own twins. They were ten months old when the picture was taken. They are now strong and healthy, and our family doctor says they were the largest and strongest twins he had ever seen. Harrill on the right weighed eight pounds at birth. Carroll on the left weighed seven pounds when he was born, and he is twenty-five hours younger than Harrill. Harrill was born on the eighth of August, 1940, and Carroll on the ninth. They have a brother four years old who is in perfect health, and he has also been raised by the plans and advice published in *THE HEALTH*

*(Continued on page Twelve)*

## Riding the Circuit

*Editorial*

**D**URING this, the hottest and most disagreeable summer in North Carolina since 1911, the editor has found the time to do some visiting among the health officers in several parts of the State, in the line of his official duties in furthering the work of the Maternal and Child Health Department, especially.

In response to an invitation from Dr. Thomas G. Faison, the hard-working and competent district health officer in the Hertford-Gates District, we spent a day with Dr. Faison. Leaving Raleigh early, we picked up Dr. Parker, another hard-working health officer, in charge of the Northampton County Health Department, at his office before nine o'clock in the morning and proceeded to Dr. Faison's headquarters at Winton. We found him hard at work getting established in his new quarters. He has remodeled an old residence building a block or so from the courthouse and is making it into a most attractive health center. After about two hours at Winton, we accompanied Dr. Faison over to Gatesville. He had a meeting before the Board of County Commissioners in which his budget was up for consideration. While he was doing that, we spent the time going over his health department which is set up in an old building formerly occupied by one or two other Federal divisions. He has a clean, compact arrangement and is starting work in Gates County which will be of much benefit to that county. The board having approved Dr. Faison's budget, we attended with him and the nurses of his department a general clinic some 20 miles from Gatesville, over in the southeastern part of the county. There we witnessed more than

a hundred people coming for various purposes, babies and expectant mothers to be examined, large numbers to be immunized against typhoid and diphtheria, and in fact, a busy clinic which is bound to result in much good for the entire population of that section. It was an inspiring visit to us.

The call by Dr. Parker's office in the early morning was also a very inspiring experience to us. The systematic organization and the detailed division of work reaching every portion of Northampton County from the headquarters in the courthouse at Jackson shows what the expenditure of a few thousand dollars under the leadership of a health officer like Dr. Parker and a supervising nurse like Miss Idell Buchan can accomplish.

Earlier in the season we had the pleasure of attending a county-wide midwife meeting at the new health department in Tarboro. This was for the Edgecombe-Greene District, and about forty midwives from the two counties were assembled for the granting of permits following their exhibition of competence, which they easily presented. The poor people of those two counties are being greatly benefited by the work carried on in both counties. On the 30th of June, the district was reconstituted and Dr. McDowell is confining his work entirely to Edgecombe County. He has excellent quarters and is working hard, and it will not be long before that county has one of the model health departments.

In the East, we have also had the pleasure of spending a short while with our old friend, Dr. Wade H. Anderson, in the Wilson Health Department. They have one of the most efficient pre-

natal clinic systems anywhere. The doctors are doing thorough work and the hospitals are coöperating in every way. They also had the midwives of that county, who are an efficient group, together for instruction and registration.

A call at the Goldsboro Health Department found Dr. McPheeters off on a vacation and the rest of the force, all except the office clerk, off in the county at work.

Two or three hours spent with Dr. Moseley and the Health Department at Kinston in the new quarters there in the courthouse afforded a great deal of satisfaction in the arrangement and prospects for the work in that county. While visiting with Dr. Moseley, he got the key for the new courtroom auditorium and took us for a brief look into that sanctum. It affords probably the best comparison to be seen anywhere in the State of the attitudes and support that the public, meaning the taxpayers and voters, gives to the lawyers and their enterprises as compared to the health department workers and their enterprise. We have never looked into a more elaborate courtroom. It would almost shame the new United States Supreme Court. We imagine that when a criminal takes his seat in the chair near the judge on that superbly equipped rostrum that he must feel that he might just as well give up, for he is gone. In short, he is bound to be overwhelmed right from the start in the midst of such ornate surroundings. We want to quickly add that we are not criticizing the county for the difference in quarters. Adjustment will come some time, whenever public health work makes the same impress on the population of that county that the lawyers and the courts and the judges have for the last century or so.

For the second time within the last

two or three years we had the privilege of attending a county-wide meeting in Dr. Foster's office at Fayetteville. Owing to the enormous expansion of military work around Fort Bragg, that whole county is almost in a turmoil with so many people coming and going, but Dr. Foster seems to have kept his feet on the ground. There is no evidence of panic or confusion around the health department, and while they badly need better quarters, more light, more room and cleaner surroundings which by all means should be given to them, he has a competent set-up and one of the very efficient health departments in the State. Thirty-seven midwives were present for the meeting, every one of them experienced and as competent as such persons can become.

On a trip up through the West we had time for only a look-in at Dr. Hudson's department in Greensboro. A visit there is always restful and encouraging to the Editor. Dr. Hudson is one of the few really great health officers in the South. He is conscientious and able, and Greensboro is most fortunate in having him at the head of their department.

An hour spent with Dr. King, the district health officer in the Watauga, Ashe and Alleghany district, on a bright, cool afternoon in the new quarters at Sparta was one of the most restful experiences we have had this summer. The quarters there are adequate and spotlessly clean, adjacent to the very efficient young welfare officer's department, and the people of Alleghany County should feel happy over having such a good arrangement for their work. Some infantile paralysis in the county was bothering Dr. King and the doctors.

Proceeding from Sparta on the same afternoon to Jefferson, via a rather

difficult detour over the mountains, we were compensated, however, by being able to pass by the section known as Spratley's Springs. This is a novel layout and shows today in the numbers of cottages ranged around a central group the accommodations that have been made in the past for people who patronize various springs around in the State for the benefit, if any, of the advertised qualities to be had by drinking the water. We have a vague recollection of considerable activities somewhere up in that section ten or fifteen years ago in the exploitation of spring waters. We pass that over, however, at this time. We regret not having a camera along to take a picture of the layout which we understand still carries on. After all, drinking more water might help most people.

The district health department with the nurse and clerk in charge at the Jefferson office is nicely situated and seems to be doing good work. We reached Boone after the close of the health office, but having had the conference with Dr. King, we went on to Blowing Rock for the night. That resort was crowded with visitors from everywhere and the climate was right up to reputation.

The health office at Newland, which is a part of the Avery-Yancey District, was open bright and early in the morning with the nurse and the clerk both present. They were expecting the health officer, Dr. Croley, from Burnsville for clinic work during the day, but we could not wait and on stopping at the Burnsville office headquarters for the district we were informed that Dr. Croley had just left for the office work over at Newland. During the brief stay we had in each one of these offices we could not appraise the work being done in the district. We hope

to return some time at an early date and see more of it.

A satisfactory meeting with the city and county health officers of Asheville and Buncombe County, Dr. Margery J. Lord and Dr. Wilfred N. Sisk, with a group of physicians doing considerable obstetric practice in Asheville, we hope will result in some encouragement of the effort there to provide hospital care for the Negroes and more of the poor whites of Buncombe County. All of the physicians manifested a most cooperative attitude and we hope and believe results may be expected there later on.

A night spent in Waynesville gave us the opportunity to spend a couple of hours in the evening very happily on the front porch of Dr. C. N. Sisk, the district health officer. This conference was helpful to us and we hope that Dr. Sisk enjoyed it as much as we did.

A brief stop at Sylva in Jackson County enabled us to see an old classmate, Dr. D. D. Hooper, who is a warm supporter of the public health work there, and Mrs. Hooper. Jackson County is recovering from the effects of the storm ravages of last summer, but the scars are still to be seen. The Bryson City Health Office is well arranged and capable of rendering fine service to the people of Swain County.

An hour spent with Dr. M. P. Whichard in his office at Murphy enabled us to learn of many of the problems and how Dr. Whichard is endeavoring to meet them in that territory. Dr. Whichard is director of the district comprised of Cherokee-Clay-Graham. We did not have time to visit Graham County so that must wait. We did come through Hayesville and across Clay County. The most definite impression we had in coming through there was the gor-

geous scenery in the mountains on that long route which all of the State should know more about, and the great possibilities for agriculture and resort development that are as yet untouched. We recalled before getting across the county the statement made in the school textbooks fifty years ago which we studied as a boy that Clay County was the smallest county in the State. We do not believe a word of it. We circled around Hayesville for fifteen minutes trying to find the health office and were directed from one corner to another and finally gave it up without ever locating it. Next time we will get Dr. Whichard to meet us down there and we will find it and see what it looks like, anyhow. We stumbled into the Farm Demonstrator's office but he had gone to his dinner, but he had a vast array of literature showing that he is on his job.

Another thing that struck us was the large number of razorback hogs all on the highways throughout the eastern section of Clay County. One native told us they were hogs belonging to residents of Georgia who got over the line where they didn't have a stock law. We did not know about that. Anyhow, they were not healthy, stream-lined razorbacks which we used to be acquainted with in Sampson years ago. These were potbellied, wormy looking hogs and are certainly not advertising the stock raising possibilities of Clay County.

Franklin in Macon County affords a fine central location for health department activity, and we hope that the new arrangement placing this county under the direction of Dr. Lynch at Brevard will enable him to give more personal attention to the health department needs than has been possible heretofore. The county nurse is a most efficient young woman,

energetic and eager to do something about the great needs in maternal and child health work in that county as in all other counties. The nurse there at Franklin very courteously telephoned to Dr. Lynch over at Brevard, sixty-three miles away, late in the afternoon, and as a consequence Dr. Lynch and the nurses in his department with the other attendants were waiting for us at Brevard and we had a most happy and instructive hour with that group. It is encouraging to us to see the development of that section and the improvement of health conditions which mean so much especially to the middle and lower classes of people in those counties.

A night at Hendersonville reminded us that twenty years ago that was one of our favorite stopping places in all the west. If they had a modern health department we would feel like renting a home and spending the biggest part of our time there when we retire, on the same percentage of pay that the State gives the judges. Hendersonville, as usual, was crowded with visitors from the far South, reminding us again of the welcome extended there to the panic stricken refugees from the yellow fever scourge a half century ago.

Several hours spent one morning during the annual Pediatric Seminar held at Saluda in a conference with maternal and child health workers of the Children's Bureau, the State Board of Health and others, afforded us an opportunity to meet some of the leaders in health and specialty work throughout the South. On the way back home from that conference a few minutes was happily spent in the health office at Rutherfordton, but the story of what is going on in the demonstration work in Polk County under the direction of this department will afford a

full chapter in itself, which we will get to later on. The Rutherfordton health office is well conducted. The health officer, Dr. Hudgins, and the supervising nurse, Miss Hewitt, were in one of the other towns of the county that day, conducting a series of immunization clinics.

We found the same thing to be going on when we stopped at Shelby. Dr. Mitchell is carrying on a fine piece of work in Cleveland County and the Shelby office is well organized. When we call at a health department during working hours in such counties and find the health officer and one or two of the nurses out conducting clinics somewhere in the county, we feel like commending them for being on their job.

A most pleasant hour while at Shelby was spent with Miss Lowery, formerly an employee of this department, who lives with her mother and her aunt in a grand and restful old home on one of the broad streets of Shelby. It was the most restful experience we had on a long visit through the western section.

After a night in one of the warm hotels at Charlotte we enjoyed a couple of hours with Dr. Rea in the health department of Charlotte, and we were gratified to know that most of the work concerning our department is still moving satisfactorily in Charlotte.

One of the most enjoyable experiences of the whole summer was the fourth anniversary and cake-cutting of the establishment of the maternity and infancy center at Erwin. Somewhere between forty and seventy-five babies, some of them more than four years old, of course, were in attendance with their mothers at the anniversary meeting staged by Miss Irene Lassiter and the other nurses and health department employees of Harnett County working under the health

officer, Dr. W. B. Hunter. This was one of the best behaved groups of babies and the best dressed, and altogether one of the most satisfactory well-baby groups we have seen in this State at any time. Mr. Bost, the superintendent of Erwin Mills, was there, a large group of doctors and ministers and other influential people from that district came out to pay their respects, meeting in the Community Building. That is the place where Miss Lassiter and her associates have fixed up the rooms for the well-baby clinics to be held, and the cleanliness, the tasteful decorations would do credit to any metropolitan hospital, and the toys and other amusement facilities to hold the attention of the babies until their turn for an examination comes would be a pride for any pediatrician's office.

As this sketch is running a little too long, right here would be a good place to close for this month.

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### **Dr. Fellows and Mr. Abell Resign** (Continued from Page Five)

Board of Health staff for nearly ten years, resigned his position with the North Carolina State Board of Health in order to accept a position as chief of the Division of Sanitary Engineering of the Alabama State Board of Health. Mr. Abell and his family left several weeks ago for their new home in Montgomery. They had made many friends while in Raleigh and North Carolina. Mr. and Mrs. Abell both took prominent parts in the Parent-Teachers Association and their church circles in Raleigh. Mr. Abell is a competent well-trained engineer who has degrees from several institutions and should give highly satisfactory service to the Alabama State Board of Health. Mr. Abell's associates in the headquarters office at the State Board of Health at Raleigh wish him much success in his new field.

## A CARD OF APPRECIATION

Six weeks ago we were notified that, owing to a shortage in white paper available to the State Board of Health, THE HEALTH BULLETIN would have to be reduced in size, the subscription list cut by half, with the possibility of having to suspend publication altogether. Faced with such a drastic order, Dr. Reynolds appealed to one of his old friends, Mr. Reuben B. Robertson, head of the Canton, North Carolina, division of "The Champion Paper and Fibre Company" for a supply of paper to the State Board of Health sufficient to enable the Board to continue publication of THE HEALTH BULLETIN. Mr. Robertson very quickly placed the State on the priority list for a grade of paper suitable for the purpose. We are, therefore, indebted to Mr. Robertson and to his company for this service which means a great deal to the public health work all over the State of North Carolina.

## TWINS

(Continued from Page Six)

BULLETIN. They have all been vaccinated against whooping cough and diphtheria. All of them are breast-fed babies of which I am very proud. I am afraid I am writing too much about them, but they are the sweetest things in the world, and I want you as editor of THE HEALTH BULLETIN to know how much help your material has been to us. I keep all copies on file and refer to them frequently, and I do not ever want to miss a single issue of THE HEALTH BULLETIN.

"With all good wishes, I am

"Yours sincerely,

MRS. HENRY LYNCH."

Most of these fifteen-pounds-at-birth babies, however, are weighed on their fathers' fish scales, which explains a lot of things.—*Statesville Landmark*.

## VISITORS

Among recent visitors to the North Carolina State Health Department were:

Misses Hazel Corbin, Hattie Hemschemeyer and Kate Hyder of the New York Maternity Center Association.

Doctors Eva Dodge and John M. Saunders, and Miss Ruth Heintzelman of the Children's Bureau at Washington, D. C.

Juan M. Ramos of the Philippine Islands, sent by the Rockefeller Foundation.

Dr. H. F. Wilson and Mr. Derrill Taber, South Carolina State Board of Health.

Mr. Cecil D. Frazier, Mr. D. R. Patterson, Mr. C. V. McKee, Dr. D. B. Galloway, Miss Eleanor Hassell, Mrs. J. H. McDougal, and Miss Reba Harris, Mississippi State Board of Health and State Department of Education.

Louis Mantilla F., Sanitary Engineer, Peru.

Tarik Bilginer, Sanitary Engineer, Turkey.

## POSTGRADUATE COURSES FOR NEGRO PHYSICIANS AT LINCOLN HOSPITAL, DURHAM

The State Board of Health, in cooperation with Lincoln Hospital and the Old North State Medical Society, is planning a series of postgraduate courses in obstetrics and pediatrics for Negro general practitioners for five days each week, during the weeks of November 3 to 7, November 17 to 21, and December 1 to 5. These courses, conducted by Doctors A. W. Makepeace and Robert B. Lawson, are the same courses that have been put on at Duke Hospital during the summer months and are made possible by funds appropriated by the United States Children's Bureau.

There will be no expense to physicians attending the course.

# Alcoholism As a Public Health Problem

In the opinion of the Editor of THE HEALTH BULLETIN for more than twenty-five years the *Southern Medical Journal* has been the best, most practical and scientifically the most reliable medical publication published anywhere in the United States. Under the above heading we are republishing in full the principal editorial in the July issue of that journal. At this time when the question of human nutrition in connection with world conditions is constantly before the public, and when the question of protection of civilian and soldier alike from the disabling effects of venereal disease is a problem for civil and military officials, a calm discussion of the great ally of both—deficiency diseases and venereal diseases—is in order. So we quote:

## "Alcoholism as a Public Health Problem

"The effects of chronic alcohol intoxication have been studied by physiologists, chemists, psychiatrists, criminologists and many others in recent years. A symposium upon the subject conducted last year before the American Association for the Advancement of Science and reviewed in the last number of the *American Journal of Psychiatry*, presents much of the current attitude and information upon it.

"This is a subject of tremendous general importance and concerns a disease without specific treatment. Drinking began with the earliest history of man. Now,

"It is culturally imperative to toast the bride, christen the ship, seal the bargain, speed the friend, salute the New Year, celebrate good fortune, wake the dead and even symbolize and ingest the blood of the Savior through the medium of alcohol. . . . Social

habits which develop in response to cultural sanctions cannot be eliminated by sumptuary legislation . . . the failure of prohibition is eloquent testimony of the essentially alcoholic nature of contemporary American culture.'

"From a medical and psychiatric viewpoint,

"Although the enlightened of today recognize excessive and prolonged use of alcohol as a disorder of conduct, a disease, in some instances at least amenable to treatment, it is a fact that throughout the United States, with the exception of the large cities, practically the only institution in which an acutely intoxicated person may be cared for is the local jail. . . . The statistics of arrest indicate that annually well over 100,000 persons are arrested on a charge of drunkenness, about 27,000 on a charge of driving an automobile while under the influence of liquor, and about 27,000 on a charge of disturbing the peace, an offense often associated with over-indulgence in alcohol. In addition, over 4,900 persons were committed to mental hospitals in 1938 by reason of alcoholic psychosis; statistics are not available as to the number admitted to the alcoholic wards of the various municipal hospitals. . . . Thus, with tuberculosis, cancer, syphilis, mental disease and infantile paralysis receiving competent and intelligent medical attention, we now have alcoholism as the greatest public health problem at the present time, which is not being systematically attacked.'

"Many studies have been made upon the physiologic effects of alcoholism and the fact that it can cause cirrhosis of the liver is the most clearly established. Various food deficiency syn-

dromes are associated with it and injury to the gastric mucosa. A legal test for drunkenness is not yet established.

"There are brain changes, as shown at autopsy.

"Almost all brains from chronic alcoholic patients show shrinkage (atrophy or pseudo-atrophy), most markedly of the frontal lobes, with corresponding increase of fluid in the subarachnoid space referred to as edema. This gross shrinkage of the brain may be due to loss of brain substance from degeneration, to dehydration, or to a combination of both factors."

"This possibly explains the character deterioration which always accompanies chronic alcoholism, the subject becoming increasingly untruthful and egocentric as he becomes more determined to obtain the desired stimulant and to justify his intemperance.

"The number of total abstainers is probably greater in America than in any other complex civilization and here it is perhaps increasing.

"Treatment should be preventive, should begin as instruction in the home and in the schools and should be emphasized in the colleges where much alcohol addiction begins. Examples of the effects upon physical development and morality should be cited. The student who contemplates only social drinking should be taught that the heavy drinker is recruited only from the ranks of the moderate drinkers; that no one ever starts drinking with the intention of becoming a drunkard; and that drunkards are never recruited from abstainers. The student should refrain entirely from intoxicating beverages, as he has no possible way of knowing his future power of resisting alcohol, whose habit-forming tendency is second only to the opiates."

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## The Health Camp

*Conducted in Connection with the Child Health Conference at Chapel Hill*

A Day in the Health Camp, as printed in the *Health Camp Daily News*, was the procedure of the daily program in the Child Health Camp.

The day began at 7:30 o'clock when the thirty-three boys and girls were brought into camp by the School Health Nurses.

The children camped daily in the Chapel Hill High School. Three rooms were necessary for this camp life. An assembly room, a sleeping room, and a lunch room, which was the Home Economics room in the school building.

The boys and girls received special instruction in swimming in the morning and another period was provided for recreational swimming in the afternoon. The pool was located in the

Woolen Gymnasium on the University campus.

The children were in camp five and a half weeks. While there they were under the supervision of staff members which were composed of two directors: Walter Wilkins, M.D., and Ph.D.; Miss MacVeigh Hutchison, Health Nurse; Camp Counselor, Miss Mildred Jackson; Camp Nutritionist, Miss French Boyd; Dietitian, Miss Maribelle Guin; Counselor Assistants, Miss Mabel Montague and Miss Annie Baldwin; Swimming and Physical Education Instructors, Miss Dorothy Griffin and Mr. Mike Ronman.

In addition to the scheduled program, consisting of eating three meals, swimming and sleeping, a varied

amount of ideas and information was recorded in what was called *The Health Camp Daily News*. The news followed this form: day of the week, month, date and year, weather report and camp news. This was written on the board daily by the counselor, dictated by the children. Other high lights in the camp were recorded also, and weekly mimeographed copies were available for the children and conference group.

During the first few days in camp the group, with ages ranging from five years old to fourteen, were to a great extent difficult to become adjusted in such a new, interesting, and exciting existence. Part of the members were in camp last summer and they were of great assistance to the camp staff. In the very beginning there was felt a need for leadership, therefore officers and committees were elected and appointed. Every child in camp was given a duty. This promoted and helped develop initiative, cooperation and self-reliance. At the end of the camp period there was a great improvement noted in physical development, nutrition and health habits and practices in general.

The camp this year was a great improvement over last year, inasmuch as there were more assistants to the regular camp staff and a double swimming period provided.

As a suggestion for another camp, the directors might pre-plan, periodically, with staff members and assistants more systematically areas of study which they feel should be undertaken.

## NUTRITIONAL KNOWLEDGE ESSENTIAL TO NATIONAL WELL-BEING

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The American Medical Association at its last annual meeting adopted some practical resolutions on the subject of nutrition in connection with the keen national interest all over the country incident to Defense, which we pass along to our readers.

"Resolved, That the House of Delegates of the American Medical Association express its approval of the general objectives of the National Nutrition Conference for Defense called by the President of the United States and specifically endorse the following recommendations:

"1. That research in nutrition be encouraged, with an aim primarily toward (a) improvement of presently known chemical and biologic procedures for estimating the amounts of the essential nutrients in foods and their physiologic availability; (b) more refined technic for the detection of nutritional deficiency states, especially in the subclinical degrees of intensity, and (c) more precise determination, for each of the nutrients, of the optimum and minimum requirements of human subjects under varying conditions;

"2. That special attention be paid to the diets and nutritional status of all workers in industry and particularly of those most directly concerned with the national defense effort;

"3. That, in providing an adequate diet for pregnant and lactating women and for children, the necessity be appreciated for taking into consideration the whole family situation and the limitations of the budget;

"4. That closer cooperation between medical and public health groups and other agencies interested in nutrition

be established in order that effective local action may be taken;

"5. That medical societies, dental societies and health authorities be represented on all state and community nutrition committees and that medical groups take an increasingly active part in organizing, sponsoring and co-operating in nutrition programs;

"6. That efforts be made to stimu-

late greater interest in nutritional problems among general practitioners and, with this in view, that opportunity for post-graduate training in nutrition be made more widely available; and finally, but vastly more important,

"7. That schools of medicine give greater thought to the teaching of nutrition."

## It Shall Not Happen Again

By CRAIG THOMPSON

Member of the Reportorial Staff of the *New York Times*

THREE men who made rich contributions to their own world and to that of those who followed them each died of tuberculosis and each died too soon. They were the pianist and composer, Frederick Chopin; the dramatist and author, Anton Chekhov; and the poet and musician, Sidney Lanier.

Taking the last first, it is recorded of Lanier that, lying in bed with his beard flowing over the coverlet, his eyes glittering beneath an ivory brow and his body burning with a temperature of 104 degrees, he dictated his greatest poem, "Sunrise." In it a man made helpless by a scourge, filled with the overpowering desire to go on living and creating, found courage to ask of a tree:

"... with your myriad palms upturned in the air,  
Pray me a myriad prayer."

Too soon thereafter he died, on September 7, 1881, at Tryon, N. C., not then 40 years of age.

And Chekhov. He wrote "The Cherry Orchard" and filled it with the anguish of frustrate youth and the spirit of decadent middle-age and told it in universal terms, so that it became an ageless play in all languages. And he did this in the year that he died. That was 1904 and he was 44.

And Chopin, who compressed into music the rolling thunder and the ruthless fury of the French Revolution, did it, also, within the year that he died. He, like Lanier, was 39 and the scourge claimed him on March 1, 1849.

Three tombstones bearing the death dates of 1849, 1881, 1904. Three men, a Polish-born Frenchman, a Russian and an American. One enemy—tuberculosis.

These three are not alone. They are samples of mankind's tragic losses, a list that could be extended indefinitely. How much richer they might have made the world we all live in, had they gone on living, is speculation. In each there was an indomitable will to create, to pour forth the contents of human spirit that is the essence of human creation, which would not be quelled even by the long shadows that approaching death threw over them. As it is, they speak with added poignance of that simple family grief which comes with the death of any of these "flowers that grow between."

There is no unalterable need of this. Tuberculosis can be prevented and it can be controlled. The task is a great one requiring constant vigilance, constant service, and the constant support of those who, enlisting in this march of human progress, might well adopt as their battle cry, "It shall not happen again."—From *The Crippled Child*.



# The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request

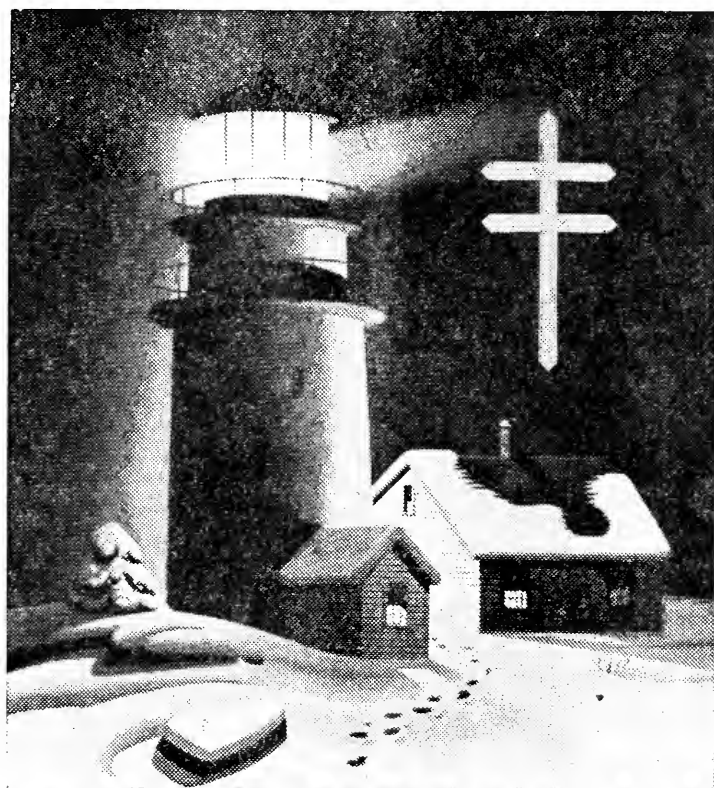
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No. 11



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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
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### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 Months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months; 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months, 2 to 3 years; 3 to 6 years.
Breast Feeding	Instructions for North Carolina Midwives
Infant Care. The Prevention of Infantile Diarrhea	
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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D. *Editor*

## Notes and Comment

By THE EDITOR

### Why Gain the World and Lose To Tuberculosis?

IN presenting this annual survey or summary, or report, as the reader may want to call it, concerning the tuberculosis situation in North Carolina, as we have been doing generally in the November issue every year for many years, two bits of information came to the editor's desk yesterday which suggests the above title.

The information we refer to concerns two highly competent young women. On yesterday, the editor's wife attended a Statewide meeting of wives of physicians held at the State Sanatorium. She came home last night and said that in the brief visit she made to some of the patients in the Sanatorium, she found a young woman physician in one of the beds, a patient taking the cure for tuberculosis. This young woman is a graduate of Wake Forest College and of one of the nationally famous woman's medical colleges, and after completing a brilliant course of educational work and is thus prepared to be a most useful citizen in the great work now being done by many women physicians, she comes down with an attack of incipient tuberculosis. Fortunately for her, modern methods of diagnosis and treatment gives her every promise of recovery. All the same, it seems to us the wise thing for her to have done, if she had

only known, would have been to live a less strenuous life in gaining her education, thus better conserving her health.

The other case is equally significant. The young woman is a nurse, graduated from one of the famous universities of New England, then a graduate of an equally famous school for nurses, on top of all that two or three years of postgraduate work, some of which was arranged through this department, and she was ready for an assignment in an important field of North Carolina public health nursing work. Almost immediately after beginning her life work in this State, she suddenly had a hemorrhage and is now awaiting admission to a sanatorium for the prolonged and tedious treatment necessary to save her life and to regain in part her lost health.

Both of these cases are tragic in their consequences, tragic to the individual and tragic to the family. Both mean a great loss to the State in that it will be a long time before their services can be available in the public interest.

\* \* \* \*

For many years we have presented these figures annually. We have endeavored to present the facts as accurately as possible. It is a sort of human bookkeeping job, a sort of a certified public health accounting. On the outside back cover will be found the tables

giving the number of deaths from tuberculosis of the respiratory system by county and race for the year 1940. The reader, by looking at these figures and going back in his library to the issue of last year and the year before, etc., may learn exactly what progress his particular county is making in dealing with the handicap of tuberculosis. He may learn whether or not deaths are increasing or decreasing, both among the white and colored people in his county population.

A quarter of a century ago, or nearly that far back, when we first began to publish such statistics, tuberculosis ranked first as a cause of death in North Carolina. Today tuberculosis ranks eighth in the number of deaths it causes annually in this State. The following diseases caused more deaths in North Carolina in 1940 than tuberculosis, in the order of their rank as killers: (1) diseases of the heart, (2) nephritis, or diseases of the kidney, (3) apoplexy, (4) congenital malformation, prematurity and deaths of infants under one year of age, (5) violent and accidental death, exclusive of homicide and suicide, (6) cancer, (7) the pneumonias, with tuberculosis as number (8) in the cause of death.

We emphasize the foregoing facts for several reasons. We feel that it is a part of our job to keep the people of the State informed as well as we can about such matters, particularly about deaths from diseases such as tuberculosis which can be prevented. Another reason is that it is highly important that as many people as possible in the State be possessed of the exact facts about such things.

An illustration for the necessity of this came to the editor's attention a few days ago. The incident was about as follows:

In a nearby county, the weekly meeting of a civic club had as one of its speakers a young physician engaged in

the work of preventing tuberculosis. So far as we know he is a highly competent young man, is expert in diagnosis and is doing a fine job. But he is deficient in one particular important point, if the local paper reported his speech correctly. The weekly paper in that town is one of the most reliable in the State. The editor is an accomplished scholar and is always careful in his statements. To quote the newspaper editor, except the name, will be sufficient:

Dr. Blank then took the floor and gave another of his very interesting talks on the progress being made in North Carolina in the control and prevention of tuberculosis. "While great progress is being made in controlling the disease in this State," said Dr. Blank, "it still leads all other causes of death, excepting accidents."

There is no excuse whatsoever for making such statements. Tuberculosis is killing entirely too many people. Eventually it will be eliminated. It is being controlled probably as rapidly as any disease in the history of the world with such widespread ramifications and such a long history. It seems to us that the speaker should have taken great pride in pointing out what has been done in order to encourage the people to a greater effort in control. Such misstatements of fact always backfire and have done in the past a great deal of damage to the cause of public health. Public health work is young. The efforts to control preventable diseases of every kind is a very young profession. Let's keep the facts on straight at all times.

\* \* \* \*

We are much indebted to Mr. Frank W. Webster, Managing Director of the North Carolina Tuberculosis Association for much of the material used in this issue. Mr. Webster is doing a fine piece of work in carrying on the Association's affairs, and we wish to commend him in the highest terms for the

*(Continued on page eight)*

# Calories and Your Diet

By EMMETT S. LUPTON, M.D.

THERE are three main general types of foods, the "body-building foods," the "protective foods," and the "energy foods." As our knowledge of nutrition increases, more and more emphasis is being placed on the body-building foods and the protective foods; this is as it should be. Dr. D. F. Milam, in his article entitled "An Adequate Diet," that appeared in last month's issue of THE HEALTH BULLETIN, gave an excellent discussion of the body-building and protective foods. Therefore, this article will deal primarily with the "energy foods." When we think of the protective foods we think of the vitamins and minerals; on the other hand the "energy foods" are those foods that supply us with calories.

A calorie is the unit of measurement of energy (heat) that, in the body, is derived from food. A calorie may be defined as the amount of heat (energy) which raises the temperature of one kilogram of water through one degree centigrade.<sup>1</sup> Hence the calorie is a quantitative measurement of energy (food). If the food one eats does not provide sufficient calories, the body itself must

provide them, thus causing a person to lose weight.

Let us compare the human body with a gasoline engine. Such an engine needs fuel, proper ignition sparks, and lubricants. The human body gets its fuel

(calories) from the food one eats; the vitamins furnish the proper "ignition sparks," and certain minerals and water correspond to the "lubricants." If any of the above mentioned agents are absent or are not present in a sufficient quantity the "human mechanism" will not function properly. With a gasoline engine one of the first questions we ask is, how much gasoline does it burn?; likewise with the human body, we want to know the number of calories

## DR. LUPTON LEAVES

With this issue of The Health Bulletin, we are continuing the series of articles on nutrition. This contribution on "Calories and Your Diet," by Dr. Emmett S. Lupton, will be found interesting and helpful by teachers, heads of families, and all others.

Dr. Lupton has been associated with the editor of The Health Bulletin in his divisional work for nearly two years. He has been a valuable associate and has contributed a great deal to the efficiency of this department. We are more than sorry to lose his services. The great independence in the field of private practice was calling too loudly for him to resist, however.

Dr. Lupton has opened an office and located in the Town of Graham for the private practice of his profession. We hope for him a successful career, but we also hope that sometime he will return to the field of public health for which he is so eminently well qualified.

we need per day. This question is not so easy to answer as it may appear, because one must consider the age, size, growth, sex, and general activities of the individual before attempting to say how many calories one needs per day. To give a rough estimate it is sufficient to say that an average-sized, healthy man at rest, i.e., sitting comfortably in a chair will burn up about 100 calories of energy per hour. Just as the gasoline engine uses more gasoline if it is driven fast, an individual at work will use up

<sup>1</sup> Sherman and Langford, *Essentials of Nutrition*.

a greater number of calories than he will when resting. The human body is constantly using up calories; there is no cutting off of the "motor" until death. We burn calories even while asleep; this is necessary to maintain body temperature, heart action, respiration, digestion, etc. With an increase in exercise there is an increase in the rate of calorie consumption. It is not necessarily true that the more food one eats the more calories he burns. In fact, the amount of exercise that one takes has more influence in determining the rate of energy metabolism than does the amount of food one takes. Food which the body does not use for energy is stored as fat.

The average adult healthy person doing an average amount of work will burn from 2,100 to 3,000 calories per 24 hours. However, there are many variations from this, according to our mode of living and type of work. For example the following number of calories are needed for the various men whose occupations are described below:<sup>1</sup>

- 2,000-2,400 calories per day for a shoemaker
- 2,400-2,700 calories per day for a weaver
- 2,700-3,200 calories per day for a carpenter or mason
- 3,200-4,100 calories per day for a farm laborer
- 4,100-5,000 calories per day for an excavator
- over 5,000 calories per day for a lumberman

There are three main types of foods from which we may obtain these calories; they are carbohydrates, fats, and proteins. Of the total number of calories we utilize each day approximately from 10 to 15 percent should come from proteins and the rest from carbohydrates, fats. Here one should remember that proteins are necessary for general body repair work and for body-building purposes. Foods rich in proteins and body-building elements are lean meat, milk, eggs, cheese, poultry,

fish, and to a lesser extent beans and peas. To enable one to calculate the number of calories in one's diet it is essential to know that one gram of carbohydrate yields four calories, one gram of fat yields nine calories, and one gram of protein yields four calories.<sup>2</sup> Thirty grams make one ounce. Thus if one eats one ounce of carbohydrates he will be getting 120 calories. Likewise one ounce of fat will yield 270 calories, while one ounce of protein will give 120 calories. However, one must remember that there is a lot of water in most all of our foods. For example we consider lean meat as protein, but lean meat contains about one part protein and three parts water. Bread, as well as butter, contains much water; therefore, it is not practical to consider bread as a pure carbohydrate and expect one ounce of bread to yield 120 calories. Instead it takes about 1½ ounces of bread to yield 100 calories. With this factor in mind, I think it would be more practical to list portions of foods that yield 100 calories.

Portions of foods yielding approximately 100 calories are as follows:

- Apple, 7 ounces, whole (one good-sized apple)
- Apricots, dried, stewed—¼ cup
- Banana, 5½ ounces with skin (one average sized)
- Beans, baked, canned—⅓ cup
- Beans, lima (dried)—⅓ cup
- Beans, lima (fresh or canned)—½ cup
- Beans, navy (dried)—½, ⅓ cup
- Beans, soy (dry)—1¾ tablespoons (1 ounce)
- Beans, string—2⅓ cups of 1-inch pieces
- Beef, lean meat, uncooked — slice 2¾ x 1½ x ¾ inches.
- Beef liver, broiled, ground—½ cup
- Beef loaf—sliced 4x6x½ inches
- Beef, round, lean—sliced 2¾ x 1½ x ¾ inches

<sup>1</sup> Rose, Mary Swartz; *A Laboratory Handbook for Dietetics*.

<sup>2</sup> McLester, *Nutrition and Diet in Health and Disease*, third edition.

Beef, sirloin steak, medium fat,  
broiled—slice  $1\frac{3}{4} \times 1\frac{1}{2} \times \frac{3}{4}$  inches  
Beets, fresh— $1\frac{1}{2}$  cups sliced  
Bread, white—2 slices  $3 \times 3\frac{1}{2} \times \frac{1}{2}$   
inches  
Bread, whole wheat 100 percent—  
slice  $3 \times 3\frac{3}{4} \times 1\frac{1}{2}$  inches  
Broccoli, steamed— $2\frac{1}{2}$  cups  
Brussel sprouts—12 sprouts,  $1\frac{1}{2}$   
inch in diameter  
Butter (nearly pure fat)—about  
 $\frac{1}{2}$  ounce  
Buttermilk— $1\frac{1}{8}$  cups  
Cabbage— $3\frac{1}{2}$  cups, chopped  
Cantaloupe—1 melon, 5 inches in  
diameter  
Carrots, fresh— $1\frac{2}{3}$  cups of  $\frac{1}{2}$ -in.  
cubes  
Cereal, any dry, or flour, or meal—  
about 1 ounce  
Cheese, American— $1\frac{1}{8}$ -in. cube  
Chicken, solid— $\frac{1}{4}$  cup  
Clams— $\frac{2}{3}$  cup  
Coleslaw—1 cup  
Collards, steamed—1 cup  
Cornbread—slice  $2 \times 2 \times 1$  inch  
Corn, canned— $\frac{1}{3}$  cup  
Cornflakes— $\frac{3}{4}$  cup  
Corn, fresh cut from cob— $\frac{1}{2}$  cup  
Corn meal, cooked— $\frac{2}{3}$  cup  
Crackers, soda—4 crackers  
Cream, thick (40 percent fat)—  
 $1\frac{1}{3}$  tablespoonfuls  
Custard, baked— $\frac{1}{2}$  cup  
Custard, boiled— $\frac{1}{3}$  cup  
Eggs, in shell (2.7 ounces)— $1\frac{1}{2}$   
eggs  
Eggs, scrambled— $\frac{1}{4}$  cup  
Farina, cooked— $\frac{3}{4}$  cup  
Grapefruit— $\frac{1}{2}$  medium size  
Grapejuice— $\frac{2}{3}$  cup  
Grapenuts— $\frac{1}{4}$  cup  
Ham, boiled (lean only)—slice  
 $5 \times 5 \times \frac{1}{8}$  inches  
Hominy grits, cooked— $\frac{4}{5}$  cup  
Honey— $1\frac{1}{3}$  tablespoonfuls  
Ice cream, vanilla— $\frac{1}{4}$  cup  
Kale, cooked— $2\frac{1}{3}$  cups  
Lamb, leg, roast—slice  $3\frac{1}{2} \times 4\frac{1}{2} \times \frac{1}{8}$   
inches.  
Lemons—3 large  
Lettuce—2 large heads  
Macaroni and cheese— $\frac{1}{8}$  cup  
Mayonnaise dressing—1 table-  
spoonful  
Milk, evaporated— $4\frac{1}{2}$  table-  
spoonfuls  
Milk, whole (5 ounces)— $\frac{5}{8}$  cup  
Mustard greens, steamed— $2\frac{1}{2}$  cups  
Mutton, leg roast—slice  $3 \times 3\frac{3}{4} \times \frac{1}{8}$   
inches  
Onions—3 to 4 medium size

Oranges—1 large  
Orange juice— $\frac{3}{4}$  cup  
Oysters— $\frac{2}{3}$  cup solids  
Pea soup, split— $\frac{3}{8}$  cup  
Peach ice cream— $\frac{1}{4}$  cup  
Peaches, fresh—2 medium size  
Peaches, canned—2 large halves  
and 3 tablespoonfuls of juice  
Peanut butter—1 tablespoonful  
Pears, fresh—2 medium size  
Peas, green, shelled— $\frac{3}{4}$  cup  
Pork chops, broiled— $\frac{1}{2}$  chop (2 to  
4 ounces) lean meat only  
Pork sausage—1.1 ounce  
Prunes, dry, whole— $1\frac{1}{3}$  ounces  
(four average-sized prunes)  
Potato, sweet— $\frac{1}{2}$  medium-sized (3  
to 6 ounces)  
Potato, white—1 medium (5.3 ozs.)  
Rice, steamed— $\frac{3}{4}$  cup (4 ounces)  
Rolls, French—1 roll  
Salmon, canned— $\frac{1}{2}$  cup  
Sauerkraut— $2\frac{1}{2}$  cups, packed  
Scallops— $\frac{3}{4}$  cup  
Shrimp, canned, with oil— $\frac{2}{3}$  cup  
Spinach, cooked— $2\frac{1}{2}$  cups  
Squash, cooked—1 cup  
Sugar, granulated—2 table-spoon-  
fuls (scant)  
Tomatoes, canned—2 cups  
Tomatoes, fresh—2 to 3 medium  
Tomato juice—2 cups (scant)  
Tomato soup, canned— $\frac{3}{4}$  cup  
Turnip greens, steamed— $1\frac{1}{3}$  cups  
Turnips—2 cups  $\frac{1}{2}$ -in. cubes)  
Veal, leg, roast—slice  $2 \times 2\frac{3}{4} \times 1\frac{1}{8}$  ins.  
Veal liver, pan broiled—slice  
 $3\frac{1}{2} \times 2\frac{1}{2} \times \frac{3}{8}$  inches  
Vegetable soup—3 cups  
Wheat, shredded—1 biscuit

It is a common fallacy in the South for people to obtain most of their calories from carbohydrates and fats. White flour, meal, hominy grits, rice, potatoes, and white side meat are poor sources of vitamins.

While people who are considerably overweight or underweight need to pay attention to the number of calories they eat, it is even more important for them to consider other essentials in their diets. Calories, which can be used to supply energy, are present in every food we eat. Some foods supply only calories, others provide calories and very few of the protective foods the body needs. For this reason we find

people whose weights are normal but who are, nevertheless, suffering with "hidden hunger," hunger for vitamins and minerals which the body needs.<sup>1</sup>

Since minerals and vitamins, which

the body must have in order to maintain good health, are much more often neglected in the diet than are calories, it is well to know some foods which are rich in these essential food elements.

**Below Are Listed Foods with the Amounts of Each if Eaten Daily, Supply a Safe Allowance of Minerals and Vitamins**

Foods	AMOUNT	CALORIES	PROTEINS	CALCIUM	PHOSPHOROUS	IRON	VITAMINS			
							A	B	C	G
Milk .....	3 glasses	504	XXX	XXX	XX		XX	X		XXX
Egg .....	1	75	XX		X	XX	XX			XX
Lean meat.....	3 to 4 oz.	200	XXX	X	X	X		XX		XXX
Green leafy vegetable (turnip greens) .....	½ cup	25	X	X	X	XX	XXX	X		XXX
Raw vegetable (like coleslaw) ..	1 serving	20	X	X	X	X	X	X	XX	XX
Cooked vegetable.....	½ cup	25-	X	X	X	X	X	X		XX
Fruit.....	¾ serving									
1 citrus fruit or fruitjuice.....	1 serving	60	X	X	X	X	X	X	XXX	X
Raw or stewed fruit— apples, prunes, etc. ....	1 serving	100	X	X	X	X	X	X		X
Whole wheat bread and cereal.....	1 serving									
	each	150	X	X	X	X		XX		X
Butter.....	1 tbsp.	100					XX			

**TOTAL CALORIES.....**1259-1284

**NOTE:** Since some meats, fruits, and vegetables are exceptionally rich in one or two food elements, while others contain far less, no attempt has been made here to give more than a rough estimate of this value.

Of course a normal healthy person will use more than 1,200 to 1,300 calories per day. Most normal people will eat enough food to supply their energy needs. Thus, if we include these essential foods, with an extra allowance of foods such as bread, butter, and desserts to bring the calories up to the amount needed to prevent loss of weight, we shall have provided for all dietary needs.

## NOTES AND COMMENT

(Continued from page four)

way in which he is going about his important work.

We wish, also, to again pay tribute to the work of Dr. McCain, head of the State Extension Service in Tuberculosis for the effective manner in which his organization is functioning. With the new Eastern State Sanatorium at Wilson well under way and expected to be opened during 1942, Dr. McCain has the satisfaction of seeing the fruits of his labors while he is yet young enough and in

the prime of life to enjoy that great satisfaction. With the opening of additional county sanatoria in different parts of the State, together with the three great State institutions, the State will be better prepared to take care of the diagnosed cases of tuberculosis than ever before. The principal job, however, remains, and that is, the purely preventive aspects and on a long-time educational basis. The next generation in this State should see the elimination of tuberculosis entirely, unless the tendency to worldwide war throws back the wheels of progress for a few additional centuries.

We cannot conclude this item on any better key than to call attention to the fact that the number of deaths from tuberculosis as set forth in the tables on the back cover was lower in 1940 than any other year in the past history of the State.

<sup>1</sup> Boyd, Miss French; Nutritionist, North Carolina State Board of Health; personal communication.

## TB—Still Enemy of Youth

By FRANK W. WEBSTER

**A** GLARING spotlight is thrown on the menace of tuberculosis in times like these. Not only has the disease always in past periods of stress flared up and spread, but the comparison of fatalities of war and tuberculosis shows startling facts.

In the last year tuberculosis killed approximately 10,000 more Americans than were killed in action, or died from wounds received in action, during the First World War.

Best available figures on the number of Americans killed in action, or died from wounds received in action, in all the wars the United States has fought since 1776 show a total of 244,450. In the four-year period, 1937-1940, tuberculosis killed 254,668.

Civilian air-raid casualties in England during a ten-month period in 1940-41 were approximately 36,000. During a comparable ten-month period tuberculosis took 50,000 lives in the United States.

We cannot afford complacency regarding tuberculosis in this country. True enough, the fight against the disease is being won. The death rate has been forced down from first to seventh place as a cause of death for the population as a whole. It has been cut three fourths in the past thirty-odd years.

But, these figures, comparing the fatalities of war and tuberculosis, show that tuberculosis is far from being just an evil memory in this country. Tuberculosis

still kills more Americans between the ages of 15 and 45 than any other cause of death.

Tuberculosis authorities assure us that we can look forward with full confidence to the eventual eradication of this disease. They also warn us that unless every effort is made during times like these to maintain progress in the fight, we stand to lose hard-won ground.

This is the only time during the year when the tuberculosis fighters make an appeal for financial support to carry on a campaign that saves our lives, our health and our happiness. Christmas seals long ago wrote their value in the victories they have supported over the disease.

### Number of Men Killed in All Wars Participated in by United States

War	Duration of War	No. Men Killed*
Revolutionary War.....	8 yrs.	4,004
War of 1812 .....	2 yrs., 5 mos.	1,877
War with Mexico.....	1 yr., 5 mos.	1,721
Civil War.....	4 yrs.	
Union .....		110,070
Confederates.....		74,524
War with Spain .....	4 mos.	700
Philippine Insurrection ....	2 yrs., 1 mo.	1,004
World War I .....	1 yr., 7 mos.	50,510
	19 yrs., 10 mos.	244,450

\*Killed in action, or died from wounds received in action.

### Number of People Killed in United States by Tuberculosis

1937 .....	69,324
1938 .....	63,735
1939 .....	61,609
1940 .....	60,000
TOTAL.....	254,668

# Tuberculosis and Total Defense

*By National Tuberculosis Association*

**H**OW unfortunate it is—at this season of the year—to find such paradoxical statements making the rounds. On one side we find such expressions as “armed forces,” “blackout,” “bombers,” “casualties” and “destroy.” And yet, at the same time, we are extending Christmas greetings of hope and for a happy and a healthful New Year to our fellowmen.

And so it is that we in this country approach the Christmas season in a war-minded world. And no defensive efforts, whether among the armed forces, or among civilians, can be complete unless the health of all of us receives major attention. A nation composed of healthy men and women is a nation well prepared for any emergency.

And now, with practically every country in the world under arms, the American people are called upon for total defense. And when we say total defense, that is exactly what we mean. Half-way or even three-quarter measures will not do.

Our armed forces, first of all, must be physically fit. Because tuberculosis is a disease of youth, it is imperative that all of the young men in the army and the navy be free of the disease upon entering the service. Just as important, these young men should be in such good physical condition that they are able to withstand the rigors that come with serving in the armed forces.

All of us should give considerable thought to the effect tuberculosis has on the health of the public in times of war.

The problem of tuberculosis is always accentuated during a period of great physical stress. The steady decline of morbidity and mortality from tuberculosis is well known. The most valuable element in the future program is increased emphasis on case-finding procedures; the tuberculin test, and, especially, the X-ray examination of positive reactors and of contacts in families and community groups. Early diagnosis and prompt follow-up by efficient public health nurse instruction are basic factors in the effective use of control measures.

In regard to a healthy people carrying on at home, it is necessary that our production facilities be kept going at full speed—not marred by workers who are ill. A recent official tabulation showed that more than 10,000 industrial plants in the United States have been awarded government contracts to manufacture vital defense material for our armed forces.

It has been aptly said that “health is the backbone of production and production is the keystone of defense.” Therefore, the health conservation of workers, which is the basic objective of industrial hygiene, is of utmost importance to the success of the defense program.

Physical examinations constitute one of the most important features of an industrial health program. Applicants for jobs should be given complete examinations prior to employment. These should be not for the purpose of ex-

*(Continued on page fifteen)*

# Winning the Battle, Once and for All

By HENRY E. SIGERIST, M.D.

**W**HY should we still have tuberculosis with us? Why should we have every year 60,000 people, mostly men and women in the prime of life, breadwinners and young mothers, taken away from their families? Why should half a million of our fellow citizens still suffer from tuberculosis? Other diseases have been overcome entirely or have lost their significance—plague, cholera, yellow fever, typhus, smallpox and many others which used to be a curse to the country.

And now the time has come for tuberculosis to go!

Is it possible? Can it be done? It can be done, and the history of the past 30 years prove it.

Thirty years ago the death rate from tuberculosis, that is the number of people who died from the disease for every 100,000 population, was 70 percent higher than today. A reduction by 70 percent in such a short period of time seems incredible, yet it is true.

We have just lived through ten difficult years—years of economic depression, when many of us had to reduce our standard. And yet, during those ten hard years the death rate from tuberculosis declined by almost 40 percent. One generation ago the disease was the leading cause of death, while it ranks seventh today, and there is no reason in the world why it should not be driven further back and ultimately wiped out entirely.

The progress achieved since 1904, through the combined efforts of public health agencies, the medical profession and the public, under the leadership of the National Tuberculosis Association, has been most encouraging indeed. In

1939 four of our states had a death rate of less than 20 per 100,000 of population and eight more states had rates of less than 30. Remarkable progress has also been achieved in many of our large cities.

In St. Paul and Minneapolis, Minn., in Rochester and Syracuse, N. Y., rates are between 30 and 40. In New York, where more than seven million people, including all races of mankind live crowded together, where extreme wealth and dire poverty are found side by side, even in such an international metropolis the death rate from tuberculosis among its white residents is today about 40 per 100,000. This seems almost a miracle.

The united States with its vast expanses, its heterogeneous population, its variety of occupations and social conditions has today among its white population the lowest tuberculosis death rate recorded for any country in the world. This is a great achievement. It was made possible because the leadership was intelligent and because the population followed the lead and cooperated.

And yet, let us not be deceived. The job is not yet finished. The enemy is still in our midst. It is encouraging to be able to register progress, but in public health we should always keep the failures in mind and the unsolved problems. They are a constant challenge to us. And in this country we cannot be ambitious enough. We must not compare our figures with those of economically backward countries. We can and must do better than the most advanced foreign nations.

We mentioned our white population as having a particularly low death rate. When we look at our colored fellow citizens—ten percent of our people—the picture looks different. Their tuberculosis death rate in 1939 was 130 per 100,000, or three and one half times the rate of white people. In Washington, D. C., the Negro tuberculosis death rate is five to six times that of white residents. In some cities, the ratio is as high as 10 or 11 to 1. The Southern states, and large Northern cities, therefore, still present a serious problem. Several states still have rates of over 70 per 100,000 and in some cities it is even over 100.

The colored people have more tuberculosis not because they are colored, but because they are poor. Tuberculosis today has to a large extent become a disease of the low-income groups, of the unskilled workers, whether colored or white, of all those people who are not adequately fed, housed and clothed. It has become a social disease, a disease that presents a serious social problem. It is not only a matter of Justice to devote particular attention to these groups, but one of common sense.

If anywhere, there must be solidarity in health matters. What good does it do if we succeed in wiping out a disease in the high-income groups and breed it at the same time among the people of low income? As long as we keep a reservoir of the disease, it remains with us and is a constant menace to everybody.

There are other groups that show a higher incidence of tuberculosis such as miners and other workers in dusty industries, particularly where there is the hazard of silica dust. Women of childbearing age and older workers are affected more frequently than others.

These are the chief strongholds of the enemy. This is where we have to get after him. What can and must be done?

Experience has shown that in its early stages tuberculosis can be cured more thoroughly than later. And, by the way, it costs much less to cure an early, than an advanced case. More than this, if a patient is found and treated early, he has no chance of spreading the disease. Our efforts, therefore, must be to find the early cases.

What is the situation today? It is far from satisfactory. Fifty-five percent of all tuberculous patients entering sanatoria are far advanced on admission, 32 percent are moderately advanced and only 13 percent are in the early stages. The goal must be to reverse this proportion, to find the incipient cases, and once they are found, to treat them without delay. This, however, requires that the states have sufficient beds available for such patients in hospitals and sanatoria. Again, statistics speak an eloquent language. In states that have two or more beds available per tuberculosis death, the average death rate in 1938 was 39.8. In states with one to two beds, the rate was 44.7, and in states with fewer beds than annual deaths, the rate was 61.1. I think this teaches a lesson that everybody should understand.

What shall we do? If we wish to eradicate tuberculosis, to relegate it once and for all to the annals of medical history, we must finish the job that was started so suspiciously in the beginning of our century. It can be done, and experts have estimated that tuberculosis can be made a minor cause of death in the very near future and can be practically wiped out in two generations, provided the American people continue to contribute funds and facilities needed.

The National Tuberculosis Association and its state and local branches have been brilliant leaders, and they will not relax in their efforts until the battle is won, once and for all. It is up to us to support them to the utmost.

In contributing to the much-needed funds of the Christmas seal campaign, we protect our own families, we contribute to the welfare of the country, and we help in preparing one of man's greatest victories over disease.

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## A Fight for Our Lives

By THOMAS J. WALSH, *Managing Editor*

Peru (Ind.) *Daily Tribune*

SINCE the funds received from the sale of Christmas seals are used to help in the fight against tuberculosis, those who are helping in this great work should find out what they really know about tuberculosis.

It is imperative that we know all we can about tuberculosis for knowledge is our real weapon against the prevention of disease. There is no vaccine for the prevention of tuberculosis, no drug for its cure. The victories gained in the past have been truly victories of education. Yet, surprising enough, there are still many misconceptions about the disease held by many people.

The medical profession and the tuberculosis associations have been telling, showing us, for years what we should know, what we should do to prevent, control and cure tuberculosis in this country. But many of us have paid little attention. Many of us do not know even the few facts that we should know—the facts which, if we knew and put into practice, would drive tuberculosis out of this country in a relatively few years.

The mistaken belief that tuberculosis can be inherited still tortures some people. But tuberculosis is caused by a

germ, the tubercle bacillus. Every person having the disease has "caught it" from someone else who has it.

Despair, based on ignorance, still strikes some people when they hear the verdict—tuberculosis. Another wrong belief has persisted—the incurability of the disease. But tuberculosis can be cured if found early. The hope in getting well lies in beginning treatment early.

Tuberculosis can be in an advanced stage before any symptoms appear. It can hide behind apparently "healthy looks" for months. But the X-ray can find tuberculosis before any symptoms appear. When the time comes that a chest X-ray will be a routine part of every physical examination, tremendous strides can rapidly be taken toward complete eradication of the disease.

Not even the symptoms of tuberculosis are known by all of us. Unexplained tiredness is a danger signal. Other signals that point toward the necessity for a competent medical examination are loss of weight, loss of appetite, indigestion, an afternoon fever, a cough that hangs on, blood spitting.

Some of us are not yet rid of the belief, long since exploded, that climate is of major importance in the treatment of the disease. With expert medical care and absolute bed rest the disease can be cured in almost any climate.

Another fact that too few of us pay attention to is the extent of the disease in this country. We emphasize the declining death rate because it is good news. We need to emphasize the alarming number of persons still dying with tuberculosis every year. Sixty thousand persons died from tuberculosis last year! We need to emphasize the tre-

mendous mortality among young people. Tuberculosis kills more persons between the ages of 15 and 45 than any other disease!

These are only a few things we should know about tuberculosis. We can prevent the attack by this enemy by using our one weapon—knowledge.

We have a double duty in the fight against tuberculosis. We must support it financially—it is a fight for our lives, remember—and we must take an active part in the fight by using the knowledge about the disease that is available to us.

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## Things You Can Trust

*By National Tuberculosis Association*

**T**HIS would be a desolate and fearful world if we could no longer believe in man and in certain institutions that men have established. If there were no longer lighthouses along dangerous coasts, no longer other symbols showing that man still protects man, times like these would be terrifying.

But there are symbols proving that man looks after man. One of the best known is the double-barred cross, spotlighted by the beam of the lighthouse pictured on this year's Christmas seal.

Americans have confidence in the double-barred cross, the insignia of the National Tuberculosis Association and

its nearly 1,700 affiliated associations. This confidence is deeply rooted in the victories over tuberculosis that have been gained in the United States since 1904, when the National Association was founded.

Time and experience have proved that the menace of tuberculosis can be abolished even though science has not yet found the specific drug for cure, or for immunization. The death rate from the disease has been cut three fourths in the past thirty-odd years. Utter despair has been taken away from the doctor's verdict—tuberculosis. We know now that the disease can be cured if found in its early stages and if proper treatment is given.

The social stigma that once hovered over the disease has been completely dispelled. From a hopeless, shameful disease, tuberculosis has become simply an illness which affects rich and poor alike, black and white alike. It can be conquered, not only as an individual handicap, but as a national handicap.

The associations carried on their life-saving work through the First World War, through the depression years, and not only will carry on through the years to come, but are now steadily tightening the "reins" on tuberculosis.

Millions have gone back to work. Billions are being spent for defense. And billions of these billions are going into pay envelopes. From these billions there are surely enough dollars to build up the additional financial support the tuberculosis associations will need during the coming year.

A faithful group of Americans have financed the associations' work even during the depth of the depression. By buying Christmas seals, just as they will buy them this year, they have protected those who were unable to protect themselves. This Christmas surely the millions who have gone back to work will again assume their responsibility—a small responsibility; one or two dollars in the fight against the disease that still kills more young people in America than any other cause of death.

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## TUBERCULOSIS AND TOTAL DEFENSE

*(Continued from page ten)*

cluding them from work, but as a guide to their intelligent placement in the type of work for which they are best fitted physically, and in order to pre-

vent those who are suffering from communicable disease, such as active tuberculosis or syphilis in a contagious state, from infecting fellow workers.

All employees should be given periodic examinations at frequent intervals in order to detect physical defects and diseases in their early stages when proper treatment will prevent much needless suffering and loss of time and money later on. With the induction into military service of many of the able-bodied men now employed in industry and their replacement by older men, and by those who are less qualified physically for strenuous work, the importance of preemployment and periodic physical examinations and industrial medical and nursing services is being multiplied manifold.

The progress which has been made in our country against tuberculosis must continue. All of the good work which has been done over the past several years should not be erased by any national emergency. With this in mind, it is evident that the campaign against tuberculosis in 1942 will be an intensive one, and it might well be divided into two general divisions.

The first may well be summed up as the division which is to coöperate with all agencies in the national emergency. The second division is that which will maintain the gains which have been made among our civilian population since the turn of the century.

The powerful little Christmas seal becomes an important weapon in lining up the ammunition for 1942. All of us can take part in this vital health campaign by purchasing Christmas seals and by using them.

# DEATHS FROM TUBERCULOSIS OF THE RESPIRATORY SYSTEM — BY COUNTY AND RACE: 1940

TOTAL DEATHS (TUBERCULOSIS, ALL FORMS) 1,760

COUNTY	BY PLACE OF DEATH			BY PLACE OF RESIDENCE			COUNTY	BY PLACE OF DEATH			BY PLACE OF RESIDENCE		
	Total	White	Colored	Total	White	Colored		Total	White	Colored	Total	White	Colored
Total, State.....	1639	640	993	1434	525	902	Johnston.....	23	10	13	29	15	14
Alamance.....	9	5	4	16	11	5	Jones.....	3	2	1	6	3	3
Alexander.....	3	2	1	3	2	1	Lee.....	11	3	8	12	3	9
Allegany.....	2	2		2	2		Lenoir.....	34	9	25	35	7	28
Anson.....	12	3	9	18	3	15	Lincoln.....	1		1	3	1	2
Ashe.....	4	4		4	4		McDowell.....	3	1	2	5	3	2
Avery.....	4	4		4	4		Macon.....	3			3	3	
Beaufort.....	11	3	8	13	4	9	Madison.....	2	2		4	4	
Bertie.....	13	4	9	16	5	11	Martin.....	12	5	7	13	5	8
Bladen.....	5	2	3	7	2	5	Mecklenburg.....	54	18	36	62	22	40
Brunswick.....	3	1	2	5	3	2	Mitchell.....	3	3		5	5	
Buncombe.....	305	191	114	60	43	17	Montgomery.....	6	4	2	6	5	1
Burke.....	15	14	1	7	6	1	Moore.....	7	7		7	2	5
Cabarrus.....	11	7	4	15	8	7	Nash.....	25	8	17	25	8	17
Caldwell.....	8	5	3	9	5	4	New Hanover.....	27	4	23	27	8	24
Camden.....	1		1	1	1		Northampton.....	8	3	5	12	6	6
Carteret.....	6	3	3	7	4	3	Onslow.....	1		1	2		2
Caswell.....	4	1	3	6	1	5	Orange.....	16	4	12	20	6	14
Catawba.....	14	10	4	14	10	4	Pamlico.....	3	1	2	4	2	2
Chatham.....	6	1	5	6	1	5	Pasquotank.....	11		11	15	1	14
Cherokee.....	4	4		5	5		Pender.....	9	1	8	11	1	10
Chowan.....	5	3	2	6	3	3	Perquimans.....	1	1		2	1	1
Clay.....	3	1	2	2	2		Person.....	7	4	3	12	7	5
Cleveland.....	8	5	3	10	5	5	Pitt.....	26	2	24	41	3	38
Columbus.....	14	5	9	18	7	11	Polk.....	4	4		4	4	
Craven.....	14		14	19	2	17	Randolph.....	5	4	1	9	6	3
*Cumberland.....	19	6	12	21	8	12	Richmond.....	8	1	7	12	4	8
Currituck.....	3	1	2	6	1	5	*Robeson.....	14	4	8	18	4	12
Dare.....	1	1		1	1		Rockingham.....	21	12	9	25	14	11
Davidson.....	7	6	1	10	8	2	Rowan.....	14	5	9	14	5	9
Davie.....							Rutherford.....	3	3		4	3	1
Duplin.....	15	4	11	22	6	16	Sampson.....	10	2	8	14	3	11
Durham.....	54	21	33	52	16	36	Scotland.....	10	1	9	14	5	9
Edgecombe.....	40	10	30	43	12	31	Stanly.....	10	5	5	12	7	5
Forsyth.....	90	16	74	96	16	80	Stokes.....	3	2	1	5	4	1
Franklin.....	4		4	5		5	Surry.....	12	11	1	14	11	3
Gaston.....	17	10	7	19	11	8	*Swain.....	3	1		5	2	
Gates.....	3	1	2	5	3	2	Sylvania.....						
Graham.....							Tyrrell.....	4	1	3	5	1	4
Granville.....	10	3	7	12	3	9	Union.....	7	2	5	9	4	5
Greene.....	5		5	6		6	Vance.....	8	3	5	10	5	5
Guilford.....	46	15	31	53	17	36	Wake.....	51	21	30	43	11	32
Halifax.....	18	3	15	26	6	20	Warren.....	7		7	9	2	7
Harnett.....	7	3	4	9	4	5	Washington.....	7		7	7		7
Haywood.....	6	5	1	11	9	2	Watauga.....	2	2		4	4	
Henderson.....	12	11	1	12	10	2	Wayne.....	78	6	72	33	7	26
Hertford.....	15	2	13	15	2	13	Wilkes.....	7	7		10	8	2
Hoke.....	123	33	90	9	1	8	Wilson.....	47	1	46	50	2	48
Hyde.....	1		1	2		2	Yadkin.....	4	3	1	6	5	1
Iredell.....	13	4	9	17	4	13	Yancey.....	7	7		8	8	
*Jackson.....	4	2	1	4	2	1							

\*Cumberland—1 Indian.

Jackson—1 Indian.

Robeson—2 Indians.

Swain—2 Indians (3 in usual place of residence).



# The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

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**Vol. 56**

**DECEMBER, 1941**

**No. 12**



**MRS. BICKETT**

There could be no more appropriate picture for the front cover of our December issue than the likeness of Mrs. Fannie Yarborough Bickett who died this year. Mrs. Bickett was the widow of Governor Thomas W. Bickett, World War Governor of North Carolina, and one of the best friends of public health ever to occupy the Governor's office. Mrs. Bickett was at one time associated with the Division of Maternal and Child Health Work of this Board. She resigned to become Welfare Officer of Wake County some time after the death of Governor Bickett. She served as Welfare Officer for 16 years, or continuously until her death. She was an able woman and loved by thousands of people in all walks of life.

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### FREE HEALTH LITERATURE

The State Board of Health publishes monthly THE HEALTH BULLETIN, which will be sent free to any citizen requesting it. The Board also has available for distribution without charge special literature on the following subjects. Ask for any in which you may be interested:

Adenoids and Tonsils	German Measles	Scarlet Fever
Appendicitis	Health Education	Smallpox
Cancer	Hookworm Disease	Teeth
Constipation	Infantile Paralysis	Tuberculosis
Chickenpox	Influenza	Tuberculosis Placards
Diabetes	Malaria	Typhoid Fever
Diphtheria	Measles	Venereal Diseases
Don't Spit Placards	Pellagra	Vitamins
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### SPECIAL LITERATURE ON MATERNITY AND INFANCY

The following special literature on the subjects listed below will be sent free to any citizen of the State on request to the State Board of Health, Raleigh, N. C.

Prenatal Care	Baby's Daily Time Cards: Under 5 months;
Prenatal Letters (series of nine monthly letters)	5 to 6 months; 7, 8, and 9 months; 10, 11, and 12 months; 1 year to 19 months. 19 months to 2 years.
The Expectant Mother	Diet List: 9 to 12 months; 12 to 15 months; 15 to 24 months; 2 to 3 years; 3 to 6 years.
Breast Feeding	Instruction for North Carolina Midwives
Infant Care. The Prevention of Infantile Diarrhea	
Table of Heights and Weights	

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CARL V. REYNOLDS, M.D., *State Health Officer*

G. M. COOPER, M.D. *Editor*

## Announcement

For about 19 years, 1923 to 1941, inclusive, we have been the responsible editor of THE HEALTH BULLETIN. Once each month during these fateful years, with the exception of a few times during 1925 and 1926 while we were acting State Health Officer, we have had to create each issue mentally, then assemble material and meet the printer's deadline. The job has always been an "extra" included in the general work of health education. While the work has been a sort of labor of love, it has been an exacting and killing responsibility. This has been especially so for the past ten years when we have been overwhelmed with much other work.

Now, that the demands of other work have become so insistent and due to the impossibility to secure adequate assistance, with this issue we have been granted a leave of absence from editorial duties. We have tried faithfully each month to give the little publication sustained character and to put in something that would be helpful to the average North Carolina family in protecting the family's health. The job has been mentally stimulating and never monotonous even for a moment. We have learned a lot about our State and its people and learned to love it more and more. In all of these 19 years we have received marvelously little criticism, most of it anonymous. On the other hand, we are grateful to thousands of interested readers who have taken the trouble to give us a word of encouragement.

With the exception of brief intervals, since the establishment of the Bulletin in 1886, it has been edited altogether by physicians, either the State Health Officer himself or someone delegated for the duty. Dr. John H. Hamilton, Director of the State Laboratory of Hygiene, has kindly consented to assume the duties of acting editor of the publication. Dr. Hamilton's services will begin with the issuance of the January number, for the make-up of which he will be entirely responsible. Dr. Hamilton is not only a well-educated physician, but he has the happy faculty of knowing how to write good English in simple language. He is a competent health officer of long experience and we feel sure that in the coming months THE HEALTH BULLETIN will be more interesting and helpful than it has ever been in all the years of its publication. The best luck that we can wish Dr. Hamilton is that he may receive the same fine coöperation from readers and members of the staff that we have had and for which we hereby acknowledge with most grateful appreciation.

GEORGE MARION COOPER, M.D.

## Notes and Comment

By THE EDITOR

### DIPHTHERIA AND SIN

ONE of the special demonstration nurses employed by the State Board of Health, working in one of our counties, recently reported a good deal of diphtheria in that county. She writes us that she thinks we might be interested in some of the cases, which we admit that we surely are. To use the nurse's own words, she says: "Of the five cases in my district, three were the children of a man who had been adamant in refusing the vaccination, his theory being that disease is God's way of punishing those who disobey. Another child had been vaccinated during infancy and had a negative Schick test last August. The fifth child had not been vaccinated because the mother had kept putting off attending the clinic because of lack of a way to get there."

The nurse makes the observation that now that cool weather is here again she will be able to carry the toxoid to use on these babies and small children wherever she finds them in the routine of her day's work and where the parent will agree to their immunization. This nurse is working under the direct supervision of a district health officer and with the full cooperation of the physicians of that county. The nurse speaks of purchasing a thermos bottle next year in order to carry the toxoid at all times during the summer. This should be practical and we hope that she will be able to do it. The nurse goes on to say that at a school in her section which she has visited and in which locality diphtheria was present, she had a run-in with one of the parents. The parent had written a disagreeable note to the principal of the school and to the health department, because the simple Schick testing had

been done a few days before to indicate the susceptibility to diphtheria, without obtaining the consent of the parent. The parent made the statement that they "did not want any more needles stuck in their children." The nurse states that the father came back to the school next day protesting again to the principal, stating that he did not believe toxoid was anything but alcohol and water and that the immunization against diphtheria was purely a political business, etc. This family lives just two doors from where another child is desperately sick with diphtheria.

The nurse concluded that we have a lot of ignorance to overcome. That is the truth and it is not confined to one county in this State, or to this State in particular, we suppose. However, the ignorance in our State is of more concern to us than anywhere else.

\* \* \* \*

**HOSPITAL DREAMS** This morning a letter comes from one of the medical officials of the U. S. Children's Bureau, sending us a copy of a communication from a Negro woman in a North Carolina county, begging the department at Washington to provide hospitalization in which she may be confined this winter. She says she has nine children in the family and this is to be the tenth. They are poor and have not sufficient funds to procure a doctor's assistance and there is no room and no bed in her house sufficient to welcome another member in a safe and satisfactory manner.

That brings up a reminder of the fact that 25 percent, or more than 20,000 babies born each year in North Carolina are born in such homes or at best but little better. That number includes the women who are attended only by midwives. In a number of counties ar-

rangements have been made with the county commissioners through the welfare departments and in many instances acting in coöperation with the health departments, to send women with complicated conditions to hospitals for delivery. One trouble is the hospitals are crowded and in most localities where the need is greatest there is no hospital facilities at all.

In the judgment of this writer, one of the solutions to better care for mothers and babies in North Carolina is the more extensive building and use of hospital facilities. It is going to be more and more necessary because of the lack of available service such as that which the old competent midwife renders and such as so-called practical nurses were able to do especially in rural sections and in the small towns in the old days. None of that service is available today. Another thing, by having fully staffed hospitals, even the small hospitals, in county-seat towns with sufficient intern service, the interns could deliver such women in the cheaper rooms in the hospital with absolute safety to the women and with valuable training and experience for the interns.

We are reminded further while on this subject of some ideas which occurred to us sometime ago along this very line. These ideas lead us to record the suggestions here. The ideas are not new and neither are the suggestions, but are simply renewal of matters we have discussed in years gone by.

First, sometime ago, while riding through the town of Murfreesboro, the seat of Chowan College, an old and widely known educational institution for girls, Dr. W. R. Parker of Northampton County, who was with us, suggested that we drive by the college grounds. He said that there had been some agitation throughout the section for the purchase of the college prop-

erty and the conversion of the property into a hospital to serve the three counties of Northampton, Hertford, and certain parts of Bertie. He said that the counties concerned could easily finance such an undertaking. Buildings would already be available for administration purposes, nurses' homes and many rooms for patients, needing only the erection of one building to start with to comprise modern operating rooms, etc. It is a suggestion worthy to be presented in that section of North Carolina.

Second, the editor's good friend, Dr. N. Thomas Ennett, the efficient health officer of Pitt County, sometime ago invited us to participate in a program at a hotel west of Morehead City known as The Villa. The meeting was an assembly of all the health officers, clerks in the offices, nurses, and sanitary inspectors, etc., throughout the southeastern section of North Carolina. About a hundred or more people were present and the meeting was very interesting, to us, at least. The meeting being held at night, we spent the night in the hotel. We had time, therefore, to look over the grounds and the building, and we have never seen a more suitable location or better setting for the conversion of this hotel into a modern, year-round hospital to serve the whole eastern half of the State. Many physicians find it necessary to send patients for convalescence and in many chronic troubles to the coastal areas for treatment and for the beneficial sea atmosphere. This place is ideally located and should be one of the most restful and peaceful locations for a large, modern hospital anywhere in the State. The modern methods of spraying and mosquito control could be effective there, together with the best type of screening, the mosquito problem would not bother in the summer time. If some of the philanthropists with money or if some of the

*(Continued on page ten)*

## The Low-cost Diet

By JOHN F. KENDRICK, M.D.

THE cost of food and other essentials of life are rising, and we face the prospect of even higher prices. In spite of this the national defense program calls for a better-nourished civilian population than ever before. In his message to the National Nutrition Conference held in Washington last May, President Roosevelt said: "Total defense demands man power. The full energy of every American is necessary—fighting men of our armed forces, workers, every man and woman in America must have nourishing food. If people are undernourished, they cannot be efficient in producing what we need in our unified drive for dynamic strength."

It is a well-known fact that, in the past, the average American citizen has not used a great deal of intelligence in planning his diet. Most individuals acquired their food habits from their ancestors, whose customs in this respect were influenced by superstitions, personal preference, and the kinds of food that happened to be easily available. Even now, we find more thought being given to the scientific feeding of livestock and poultry by those engaged in these industries than is given to the feeding of members of their respective families. The present national emergency, without doubt, makes the need of improved human nutrition acute, but we should neither overlook the fact that many of our people were malnourished before there was an emergency, nor that malnutrition will continue after the emergency is over unless permanent changes are made in our selection and use of foods. We should begin *now* to develop sound food habits based, not on custom or personal taste, but on the

proved facts of nutritional science and education.

But how shall we, with our present modest incomes, get around the problem of ever-rising prices and insure ourselves and our families of a well-balanced diet? Obviously, neither you nor I can secure our dietary essentials at lower prices than those prevailing in our community markets. Please note that I say our dietary *essentials*, not our customary food supply. I emphasize this because there is a point below which we can exercise no further economy on the *essential* foods, although we might profitably reduce the amounts of nonessential foods customarily used in our diets and thereby make it possible to have a balanced diet without increased cost.

In the October, 1941, issue of this Bulletin, Dr. D. F. Milam discussed *An Adequate Diet*. There we learned that we must have an adequate daily supply of (1) body-building foods, (2) protective foods, and (3) energy-producing foods. We also learned the kinds of foods that serve these purposes, and a list of five things that we should do to obtain an adequate diet was given to guide us. If we have familiarized ourselves with the essentials of an adequate diet, we may discuss some factors that will aid us in purchasing our dietary supplies as economically as possible.

The foods necessary for body-building purposes are those that contain appreciable quantities of protein that the body can easily utilize. Typical protein foods are milk, eggs, cheese, fish, lean meat, including liver and kidney, poultry, game, and peas and beans, particularly soy beans. An adequate diet re-

quires a wide variety of foods. Likewise, a diet containing more than one of the above-named protein foods is much superior to a diet containing only one. Moreover, certain other foods that are not ordinarily classed as body-building foods, such as whole-wheat bread and cereals, if supplemented by milk and one or more other foods of animal origin, provide an economical, nutritionally sound basis for our dietary.

The standard of a quart of milk daily for each child, and a pint for each adult is one that should be fully met if at all possible. These amounts would, of course, include milk used in cooking. If fresh milk is scarce or unduly expensive, canned evaporated milk may be used instead. Beside being cheaper, evaporated and dried milk have the same food value as fresh milk. Evaporated milk has the additional virtues of being sterile, of keeping fresh in hot weather, and usually of having some vitamin D added.

Since meat is an expensive food it is not economical to use it as the main source of protein, but small quantities used skilfully give variety and flavor to meals. Tough and less-tender cuts are cheaper than tender cuts and so must be the chief source of meat when the income is low. Fortunately the nutritive value and flavor are equal to those of the more expensive cuts and with careful cooking it is possible to make them tender. Beef or pork liver is usually cheaper than other cuts of meat and should be served once or twice a week. Liver is an excellent source of protein and iron, and a good source of several of the vitamins. With the exception of liver, meat is not especially important as a source of vitamins. It may be replaced by soy beans when milk is also included in the diet.

The soy bean as an article of human diet has been very much neglected by our North Carolina citizens. This bean

grows well in many parts of the State, and edible varieties, such as Rokusun, Easy Cook, Tokyo, and Woods' Yellow soy beans, are usually found for sale at seed stores and at farmers' exchanges. In view of the fact that the cost of foods upon which we ordinarily depend for our sources of protein is now at a very high level, it would be the part of both wisdom and economy for us to turn to the soy bean for a liberal proportion of our protein intake. This bean should never be depended upon as the only source of protein, but should be used with other protein foods, preferably with milk. The soy bean offers a splendid opportunity to secure a highly nutritious protein product at a very moderate cost, and those who contend that it is unfit for human consumption deceive themselves badly. Attractive recipes for preparing soy beans for the table may be secured from the U. S. Department of Agriculture, Washington, D. C., and from the North Carolina School Health Coördinating Service, Box 2091, Raleigh.

The foods belonging to our second classification, namely, the *protective foods*, are relatively abundant in North Carolina, although they could be and ought to be far more plentiful. If every householder who could do so, would only use the small available plots of ground to grow vegetables, there would be little need to tax the food budget for the purchase of them. Thousands of families who now have to buy tomatoes, cabbage, lettuce, beans, peas, carrots, potatoes, turnips, turnip greens, mustard greens, cress, collards and the like, could easily grow them if they would only apply themselves to the task. And, what's more, most of us would find this small-scale gardening a pleasure, a fine source of recreation, and a pride. Moreover, this practice would in no small way contribute to national defense. The growing of fruits, perhaps, is more diffi-

cult for the average householder, yet serious thought should be given by housewives to the contribution they could make by canning fruits, and vegetables as well, when supplies are abundant and prices are low. A noteworthy comment may be made here in connection with the economy of cooking vegetables, namely, that a large part of the food value is lost by overcooking or by the use of excessive amounts of water. As some vitamins are easily destroyed by heat, vegetables should be cooked only long enough to get them tender. Soda, also, destroys vitamins, and since it offers no advantage whatever, it should never be used in the cooking of vegetables. Remember that the liquids in which vegetables are cooked are rich in minerals and vitamins and that the use of them in our diet is definite economy.

The foods classed as *energy-producing foods* are so called because their intake contributes principally to the energy (calories) that the body needs to perform work. Some foods of this class furnish none, or very little, of the body-building or health-protective substances so necessary for good nutrition. In this class are most of the native fats (except butter), and carbohydrates (sugars and starches). Of course we must meet our energy requirements but we must exercise care that in so doing we also maintain an adequate intake of the protective and body-building foods. We are eating too much refined cereal products such as white flour, other refined cereals, and sugar. Actually, the cheapest and best way to provide this energy is by the use of unrefined, whole-grain products, such as whole-wheat flour and bread, oat meal, and the like. These products furnish not only energy, but also very substantial quantities of important minerals and vitamins. Thus the housewife who desires to keep her food budget on both

an economical and efficient basis will use the barest minimum of sugar and refined cereals and will serve her family generous amounts of the products of the whole grain.

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## PUBLIC HEALTH SERVICE

Many Scotland County citizens are hoping that the public health unit, which is being set up here by the State Board of Health as a temporary emergency service during the army maneuvers period, will demonstrate the value of such a service to the extent that the county will decide to make it permanent.

Scotland is one of the few counties in the State that are still without a public health service. Three or fewer than a dozen such counties are in the army maneuvers area. They are Scotland, Hoke and Montgomery.

Without such a service and without information as to what it accomplishes, our people are in total ignorance of the value of the service or what it can accomplish.

Some startling facts stand out at present, which intelligent and thoughtful people will not dismiss lightly from their minds.

1. There is absolutely no effort whatever at enforcement of sanitary regulations in town or county, so far as local authority is concerned.

2. There is no inspection of milk, meats, or other foods offered for sale on local markets.

3. The Town of Laurinburg does not include one dollar, or one cent, in its annual budget for health or sanitation as such.

4. There is no clinic for typhoid or diphtheria immunization, except by special and part-time effort.

5. Open closets are prevalent in Laurinburg, and the town makes no systematic or serious effort to clean

them out or to eliminate them from the community health picture.

6. The State and the Federal governments are pouring hundreds of thousands of dollars into North Carolina every year for public health work.

7. By denying itself such a service Scotland County and its people have no share in this money or the services which it provides.

8. The county is spending a considerable sum of money each year for health work, but it is not organized, coordinated or efficiently directed.

9. And as a consequence health laws are violated and ignored every day with absolute impunity by individuals, property owners and business establishments.

10. School children enter the public schools here without immunization against typhoid and diphtheria; there is no public agency or clinic that administers the vaccine and the anti-toxins.

11. Public health work is not a fad or an untried experiment. It is a serv-

ice demanded and possessed by every progressive, forward-looking community in the land, with few exceptions.

12. Neglect of public health is poor economy. Disease and unnecessary death are the most costly of all man's misfortunes.

13. The enlightened and the informed owe it to the less fortunate and the underprivileged to bring within reach the benefits of public health service, of knowledge which makes it possible for human beings to live happier, longer and more useful lives.

14. Scotland County can afford a public health service, and can ill afford to be without it.

The above editorial, which appeared in the September 25 issue of the *Laurinburg Exchange*, was written by Mr. O. L. Moore, who was a member of the last Legislature from Scotland County. It is one of the most concise and forceful statements on the subject we have seen.

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## Prevention of Deafness in Adult Depends Upon Prompt Treatment of Child

*From Connecticut Health Bulletin*

**I**T is likely that three out of every four persons who are somewhat deaf began losing their hearing before they entered school and from a cause which was treatable. Since we know the cause of deafness it is only right that we apply our knowledge and give proper care to children with conditions which may lead to deafness. It is important that parents and children be taught how they can help to protect hearing. Through avoiding respiratory infections, through securing prompt attention when medical care is needed,

and through maintaining general bodily health much can be done to prevent a loss of hearing. Children who are too young to be expected to understand the why and wherefor of various health habits can at least be taught how to blow their noses properly and how to avoid abuse of their ear canals. Even the smallest child knows that there is a right and a wrong way to do everything and the right way to blow the nose is to blow one side at a time and do it very gently. One of the parts of the ear which is essential to hearing

is the space which is known as the middle ear and it is connected with the throat by a narrow tube. Blowing the nose violently and blowing both sides at once increases the pressure in the tube and may force drainage from the throat to the middle ear. Because the middle ear contains the tiny bones and nerves concerned in hearing, it is important that no secretion from the throat or nose be allowed to enter. The childish experiment of placing a wad of paper in the nose or the ear is considered impolite and unwise, and rightly so. Such an experiment is a dangerous one because it may lead to an infection in the ear.

### Special Precautions

Parents who have been concerned with a child sick with a respiratory infection such as an ordinary head cold or with a child who has had a fever and earache should realize that prompt medical attention can prevent chronic conditions which lead to loss of hearing. In addition, parents who safeguard their children's health by taking them to their family doctor for regular physical examinations and advice are protecting the hearing of that child as well as his general health. The finding of diseased tonsils and adenoid growths such as enlarged adenoids will well repay the effort and expense involved in taking the child to the doctor regularly. If a child has placed any foreign object in the ear it should be removed by a physician as soon as possible. An attempt to remove an object from the canal of the ear by someone who is not especially equipped and skilled may result in injuring the ear drum. The advice of the physician should be carried out when he recommends incising the ear drum in case of middle ear infec-

tion. Since the drum is likely to heal more quickly than if the pus in the middle ear must force its way through the drum, thus making a large, irregular hole. By incising the drum in the case of the middle ear infection, the physician allows the pus to escape and thus reduces the pressure of the pus within the middle ear. The reduction of pressure in the middle ear is a safeguard against a mastoid infection.

### Child's Hearing Should Be Safeguarded

The hearing of the adult depends upon the normal state of all bony, nervous, and membranous tissues involved in the hearing mechanism. The normal state can be protected in children and thereby protect the hearing in the adult. The hearing of the preschool child depends upon the care he has been given with regard to general bodily health, the prevention of diseases such as head colds, influenza, measles, scarlet fever, to routine health supervision, prompt treatment of middle ear infections and to the proper blowing of the nose. Reliable hearing tests should be made on children before they enter school and physical examinations repeated so that the defects may be removed in order that the child may be given the best possible chance to safeguard his future hearing.

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### NOTES AND COMMENT

*(Continued from page five)*

counties in the area would group together and finance the purchase and conversion of this property into a modern hospital, it would be serving one of the most acute needs in this State at the present time in the field of hospitalization.

# Recent Changes in the Epidemiology of Diphtheria

By R. A. HERRING, M.D., *Director*  
High Point City Health Department

AN increasing number of cases of adult diphtheria occurring in the experience of the writer in recent years has prompted an investigation of the present age distribution of diphtheria incidence in this State and elsewhere. The fact that a shift in susceptibility to this disease from the younger to the older age groups is taking place in other parts of the United States has been noted. It follows, then, that the corollary of this, a shift in attack by diphtheria to include an increasing proportion of older persons, should parallel the shift in susceptibility. This has been found to be the case and, since the phenomenon represents a recent and important accession to the epidemiology of diphtheria, it is proposed to discuss the factors producing the shifts and the effect the trend may or should have upon our future methods of control.

In High Point, N. C., case reports during the past six years show a relatively high proportion of cases in persons 20 years of age and over. The cases reported for this period are as follows:

Year	Cases Reported	Cases 20 Years and Over	Percentage of Cases 20 Years and Over
1936	39	9	23.
1937	21	5	23.8
1938	5	0	0.
1939	30	2	6.6
1940	9	1	11.1
1941*	16	6	37.5

Cases in persons 20 years of age and over did not occur in all years but,

whether there is a difference in incidence or not, the trend while evident, may be extremely irregular in an area of small population, as compared with that of an area of greater population having numerically a larger number of cases annually. The trend in High Point in three of the six years is quite apparent, being for the current year to September 30, 1941, 37½ percent of all cases reported. The writer was also impressed during the past year, when, in Schick testing a number of hundreds of pupils of the public schools, he found that nearly 25 percent of the teachers gave positive reactions.

To determine whether the trend can be demonstrated in the State as a whole, the age distribution of cases reported throughout the State for the years 1930 and 1940 was secured from the Division of Epidemiology of the State Department of Health. This, together with the same data for other years already at hand, permitted tabulation of the age distribution of cases reported since 1924.

Year	Cases Reported*	Cases 20 Years and Over	Percentage of Cases 20 Years and Over
1924	3,830	422	11.2
1930	3,200	317	9.9
1940	1,106	104	9.4

So far as the whole State is concerned analysis of the tabulation does not demonstrate the trend toward attack of older persons. However, this does not negate the fact that it is observable elsewhere. The reason why the trend is not observable in North

\*Through September 30.

\*Less cases of unknown age.

Carolina, I believe, is readily explained and discussion of this point will be taken up later.

As is well known, the discovery of the Schick test phenomenon made available through the occurrence of a positive reaction, a specific means of determining those persons who are susceptible to diphtheria and, conversely, by a negative reaction those immune to this disease. Following the introduction of the test into general use probably the most comprehensive mass testing ever done in this country is represented in Zingher's report published in 1923 of 150,000 Schick tests performed in New York City. When broken down into age groups Zingher found that 17 percent of children under five years of age were immune, 68 percent of those under 20 years, and 88 percent of young adults 20 to 30 years of age. These tests, having been performed over a period of several years prior to 1923 and performed under conditions involving only the factor of natural immunity, that is before the general introduction of toxin-antitoxin or toxoid administration directed at production of artificial immunity, represent the most valuable index we have of the original diphtheria susceptibility and immunity ratios of United States population groups. The work serves as a positive criterion for comparison with ratios found in later years to indicate progress in immunization.

Pertinent to this discussion is the question as to how and why natural immunity to certain diseases, and particularly to diphtheria, develops in some persons to protect them against those diseases which they have never had. It is important in explaining the increasing attack rate of diphtheria in older persons observed at the present time. In the case of diphtheria this phenomenon is explained by the fact that the individual manufactures his own pro-

TECTIVE ANTITOXIN as a result of contact with the diphtheria bacillus. He acquires this contact by becoming a carrier through exposure to sources of infection. The more frequent this exposure occurs, that is the more numerous the sources of infection in a community, the more likely the person is to become a carrier and thereby to become immune. For this reason the original immunity ratios were found highest in cities where the population is crowded and lowest in rural communities. However, as the incidence of diphtheria decreases under control activities, fewer sources of infection occur for the population to be exposed to, and theoretically, we may expect a gradual decrease in the number of people acquiring natural immunity. This decrease will extend more and more into the upper age levels, which showed formerly the highest ratio of natural immunity, and explains why an increase in the attack rate in older persons has occurred. It should be noted that an increase in the attack rate in persons in the upper age groups is referred to and not an increase numerically in cases at these ages. This is an important point.

That an increase in the attack rate in persons 20 years of age and older actually occurs under these conditions has been demonstrated in New York City as indicated in the following tabulation. This shows an increase in cases in persons 20 years of age and older from 6.4 percent of all cases occurring in 1920 to 19.6 percent in 1940.

Year	Cases Reported	Cases 20 Years and Over	Percentage of Cases 20 Years and Over
1920	*9,947	641	6.4
1930	3,581	329	9.2
1940	386	76	19.6

In Massachusetts, where only 144 cases occurred in 1940 in the entire

\*14,166 cases reported; 9,947 were tabulated for age.

State, 15.2 percent were in persons 20 years of age and older.

The trend toward attack of older persons is also reflected in an increase in the percentage of deaths from diphtheria of persons 20 years of age and older. This is observable in New York City where, during the five-year period, 1935 to 1939, deaths at 20 years and over made up 15.3 percent of all deaths from this disease and in the United States registration area during the past 20 years.

#### Diphtheria Mortality, U. S. Registration Area, 1920-1939

Year	Total Deaths	Deaths at 20 Yrs. and Over	Percentage Total Deaths at 20 Yrs. and Over
1920	13,211	580	4.3
1930	5,741	377	6.5
1939	1,997	164	8.2

It is very probable that the case fatality rate at the various age levels has not increased appreciably, hence the increase in the percentage of deaths in persons 20 years and older must be due solely to a relative increase in diphtheria morbidity at these ages.

The marked increase in the percentage of cases of diphtheria in persons 20 years of age and over in New York City under conditions of reduction of the disease at all ages in 1940 to approximately two percent of that of 1920 is striking. The increase is perhaps more evident in New York City for the reason that that city has, during the intervening period, carried out the greatest immunizing campaign undertaken to date in the United States directed at the early years of life and means simply this: that, as we reduce diphtheria in the early years by specific immunization there is an abrupt decline in the carrier rate in any community. Fewer persons, therefore, acquire natural immunity and particularly does this reach into a larger and larger group of people advancing into the upper age levels. One might inquire why, in view

of the intensive immunization campaigns being carried out at the present time, a relative increase in susceptibility in adults should occur, that is why, with so many younger persons now being immunized, protection should not continue into later life. This is explained by the fact that, even after administration of two to three doses of toxoid, immunity is not permanent in all persons immunized. Immediately after toxoid administration there is, of course, a high antitoxin content in the blood serum, but as time passes the antitoxin level falls. Antitoxin titrations at time intervals have proven this. After further interval, particularly as the individual reaches the adolescent or young adult age, the antitoxin level is reduced in some persons below that necessary to protect. This plus the fact that natural immunity is declining in these age groups will inevitably create a relatively greater susceptibility to diphtheria than formerly.

We can prove this point directly by studies with the Schick test to determine the susceptibility ratios now occurring in groups of people of different ages. Unfortunately we do not have available for this purpose a record of recent mass Schick testing in the same area of New York City, such as produced the susceptibility and immunity ratios found there by Zingher prior to 1923. If we did we would have at hand, approximately 20 years later, a means of exact comparison. Studies carried out in other areas, however, serve the purpose. A recent report by Thelander of work done in San Francisco, where in recent years much diphtheria immunization has been done, based upon Schick tests of a large number of people, including young adults, shows that the susceptibility ratios found reveal almost a complete reversal of Zingher's findings in New York City about 20 years earlier. When his work is broken down

into comparable age groupings he found that the immunity was 80 percent among children under five years of age, 60 percent among children of elementary school age and 40 percent among adults.

We have, then, reliable data to indicate that a shift in susceptibility to diphtheria from the younger to the older age groups is occurring in some areas of the United States. We have also a satisfactory explanation of this phenomenon which, as has been stated previously, is due to lessened opportunity of inoculation by exposure. It should follow, therefore, that the degree of shift of susceptibility in any area would parallel the degree of effectiveness of our control of this disease and this may explain why no such shift has occurred in the State of North Carolina. It is very probably true that, by analysis of the morbidity records, the shift can be demonstrated in certain areas of the State where active control measures have been in operation for a number of years; yet in other areas, notwithstanding the fact that considerable immunization in the early years has been done, there still occurs a preponderance of cases in young children. This, even though cases occur in persons 20 years of age and over, serves to continue the age distribution of cases of previous years for the whole State. It is possible also that failure to report cases in the early years of this period serves to distort the ratios found in this State. Even as recently as 20 years ago reporting of cases of the notifiable diseases was very incomplete and neces-

sarily, unless all cases are known, the cases reported may not represent the true age distribution of all cases occurring. I believe, however, that we may anticipate a shift in the diphtheria morbidity of this State at such time as control becomes as general and as effective throughout the State as it is in the areas where the shift has already occurred.

Having shown, I think conclusively, that, in the last two decades, there has been a decrease in natural immunity in many areas of the United States, and that this decrease is extending into the upper age groups formerly found immune, this phenomenon represents an addition to the epidemiology of diphtheria which, in the future, must be taken into consideration as we perfect our control of this disease. We now quite universally concede that all young children should be immunized. This recent addition to the epidemiology of diphtheria also calls for consideration of protection for adults. Schick tests of adults, particularly those who are in constant and intimate contact with children such as teachers and parents, will unquestionably reveal an increasing number of positive reactions indicating susceptibility and the need for immunization. Paralleling this should go the warning to physicians and health workers, who are accustomed to think of diphtheria as a childhood disease, to be more and more on the alert for clinical diphtheria in the adult.

## What to Do About Colds

By THURMAN B. RICE, M.D.

In *Indiana Health Bulletin*

IT seems so soon for the time of year to be here again when we can expect to be exposed to colds, but the calendar assures us that such is the case. And what can be done about it? As a matter of fact a great deal can be done though experience tells us that the great majority of the people will simply let the matter ride until it is too late.

Perhaps it may be of some benefit to go into the matter again. It must be remembered that colds cause an enormous loss of time and efficiency and that a great many persons die or are seriously crippled as a secondary result of the really serious infection which is commonly passed off as being "nothing but a little cold."

There is the matter of immunization against cold—"cold shots" in other words. It would be a bit hard to prove by absolutely objective statistics that these treatments are effective, but it is a fact that thousands of doctors and millions of patients insist that they are useful, and it is a fact that these injections are being used more and more year by year. The cold vaccine does not claim to prevent all colds, but it does claim to build up the patient's immunity to those germs which are responsible for the secondary effects of infection and most of the dangerous complications such as pneumonia, sinusitis, middle ear infection and the like. The primary cold is of course due to a filtrable virus, and such a virus cannot as yet be used in a vaccine for the prevention of colds. The virus phase of the cold commonly lasts only three days, however, and then the disease is over unless a secondary infection has taken place. This secondary or bacterial phase is due to germs which are well known and which can easily be made into a vaccine. Such a vaccine might be expected to give some degree of immunity to this secondary phase and such indeed is claimed by those having much experience with it. Personally we think that cold vaccines are very useful indeed if taken early in the season and continued through the winter. They will cost a great deal less than colds will cost.

Entirely aside from the use of vaccine there is much that can be done to prevent colds. Proper rest, sufficient sleep and good nutrition will aid though they will not guarantee freedom from infection. Vitamins A and D have been supposed to be of benefit, as have sunlight and cold baths. Taken with discretion all of these are doubtless useful, but not specific preventives. Over-eating, exposure to weather and association with those who are known to have a cold are to be avoided. Common drinking cups, promiscuous kissing, putting possibly contaminated articles or fingers in the mouth and such similar means of transferring germs should be avoided. It will help if the hands and face are washed frequently when one is about where the germs might be.

When one already has a cold and the opportunity for prevention is lost, there is still much that can be done to prevent the really serious consequences. Persons with an acute cold should be in bed or at least should be quiet and out of circulation. By this means they avoid contaminating others and spreading their disease about the community, and they are less likely to pick up a contaminating organism which might injure themselves. When one is fighting an infection, he should remember that his heart and kidneys need all the rest they can get and that the diseased respiratory passages should be protected from further contamination and the irritation of cold air. If the infection seems severe, it will be well to get the advice of the family physician and then *follow that advice*. The doctor cannot cure a cold immediately, but he can do much to detect and give early treatment to complications, and he can do much to insure rest and relaxation which are so needed at this time. There are those who take much pride in the fact that they continued work while suffering from a bad cold. It's supposed to be proof that one has a strong body—yes, a strong body and a weak mind—and the body won't be strong very long.

Self-medication is a very common practice but is by no means always wise. It is all *wrong for the patient to prescribe advertised drugs for him-*

*self.* Nearly all these products are greatly exaggerated in the advertising and nearly everyone is a heart-depressing drug. The taking of heart depressants on a layman's diagnosis is a dangerous practice, and particularly so when we remember that organic heart disease is killing more persons than the next two commonest causes of death. When one takes a drug so that he may feel well enough to go about his work, even though he is suffering from a cold, he is definitely making trouble for himself at a later date. One needs rest at such a time. He must not whip a tired and sick body into exertion by masking symptoms which are calling attention to the unusual needs of the body.

Heavy use of cathartics and alkalizing agents are likewise contraindicated at such a time. Enemas are much less disturbing than cathartics. Fruit juices are excellent because they (though they are acid themselves) leave an alkaline residue when they are burned in the body. Sleep, rest, gentle sedatives if one is resting or in bed, enemas, light bland diet (milk and fruit juices are best), plenty of water, warmth, avoidance of chilling draughts, the least possible exertion, avoidance of contacts with others and the advice of the family physician are the means of recovery. When these principles are observed conscientiously, there will be a minimum of difficulty from colds.

## SATISFACTION

In the past we have published a few knocks and criticisms coming our way. In this issue we are taking the other side of the road.

CHARLOTTE—"Thanks for THE HEALTH BULLETIN. I enjoyed it as though it was a letter from home."—MRS. H. B. H.

LATTIMORE—I feel that the NORTH CAROLINA STATE HEALTH BULLETIN is the greatest publication that has ever been printed and sent to the people."  
—J. C. P.

RALEIGH, R. F. D. —Writing for a change of address, this good Wake County housewife says: "Miss my HEALTH BULLETIN so much; I can hardly keep house in a sanitary condition without it."—MRS. D. I. S.

MUNCIE, INDIANA—"We want you to know that we appreciate your HEALTH

BULLETIN for our workers' library and workers' consultation service. We particularly enjoyed your *Notes and Comment* editorial in the August issue entitled 'August Reminiscences.'"—O.G.O.



**WILLIAM IRWIN BERRYHILL, Jr.**

This picture of William Irwin Berryhill, son of Mr. and Mrs. W. I. Berryhill of Raleigh, was taken when the baby was three months old. It is a superb picture of a superior baby. Mr. Berryhill is known and liked by all the physicians and health officers in eastern North Carolina.











